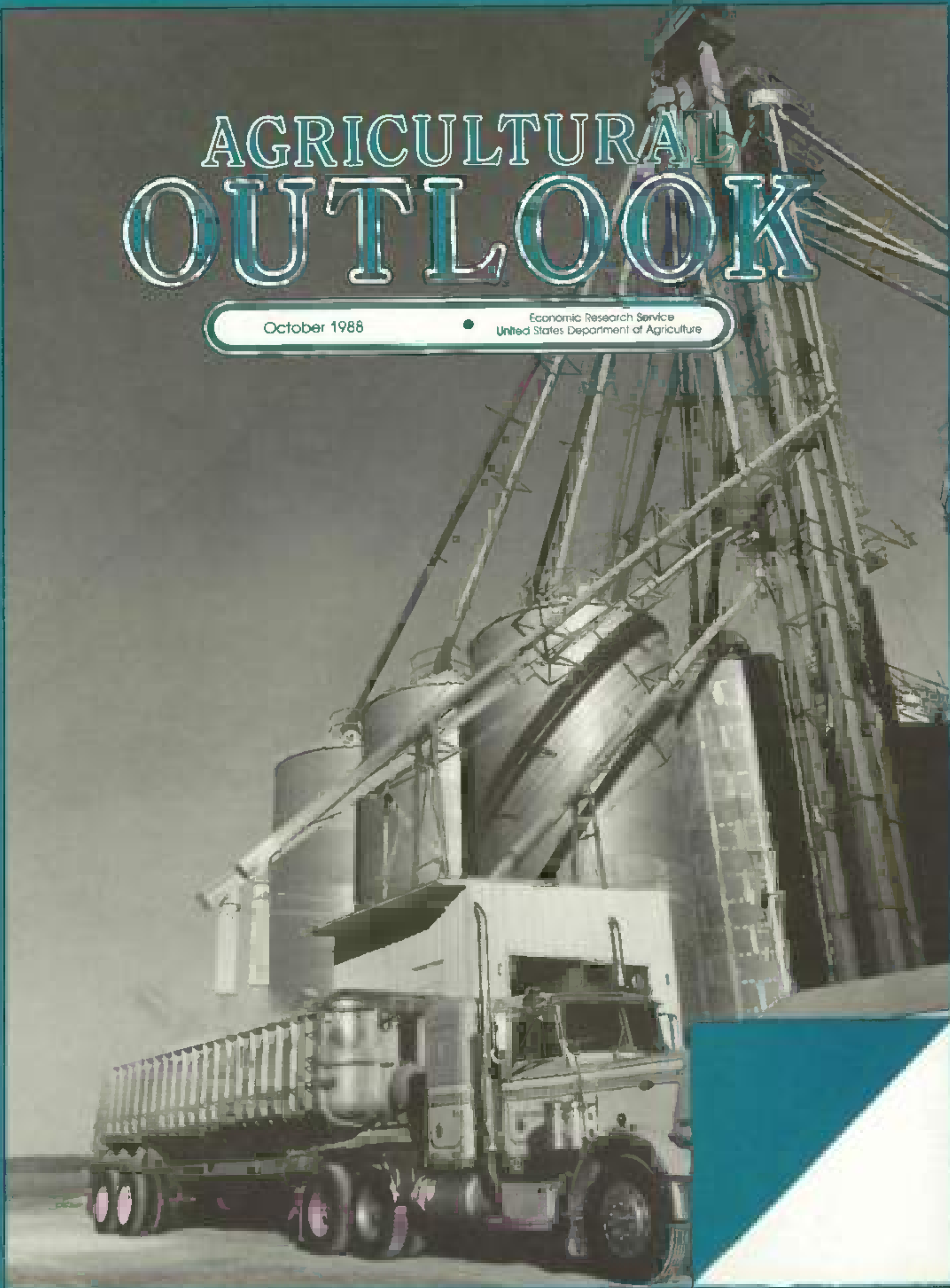
AGRICULTURAL OUTLOOK

October 1988 • Economic Research Service United States Department of Agriculture



AGRICULTURAL OUTLOOK

October 1988/AO 146

Departments

Statistical Indicators

Economics Editor—Clark Edwards (202) 786-3313

Managing Editor—Patricia F. Singer (202) 786-1494

Editorial Staff—Shirley Hammond, Eric Sorensen

Statistical Coordinator—Ann Duncan (202) 786-3313

Design Coordinator—Carolyn Riley

Design Staff—Barbara Allen

Production Staff—Karen Sayre, Tracy Fleck

Composition—Joyce Bailey

Contents of the report have been approved by the World Agricultural Outlook Board, and the summary was released September 20, 1988. Materials may be reprinted without permission. Agricultural Outlook is published monthly except for January/February combined issue. Price and quantity forecasts for crops are based on the September 12 World Agricultural Supply and Demand Estimates.

Annual subscription: $22 U.S., $27.50 foreign. Order from USDA/ERS, P.O. Box 1608, Rockville, MD 20850. Make check payable to USDA/ERS. You will receive an acknowledgement of your subscription order. For additional subscription information, call (301) 953-2515.

The next issue of Agricultural Outlook (AO-147) is scheduled for mailing on November 4, 1988. If you do not receive AO-147 by November 18, call the managing editor at (202) 786-1494 (be sure to have your mailing label handy). The full text and tables of AO-147 will also be distributed electronically; additional information on this is available at (202) 447-5505.

In Brief . . . News of Food Aid, Farmland Values, Seed Imports

The drought appears to have slowed temporarily the rise in farmland values. Rural appraisers surveyed in August by ERS reported only a 1.2-percent increase in nationwide farmland values from the first of May to the end of July. This was lower than the 1.8-percent gain reported in the preceding 3 months.

While the appreciation rate for farmland could continue to slow in coming months, the appraisers were more bullish for the year ahead, expecting a 4.6-percent rise in values from this year. Last May, surveyed appraisers had anticipated only a 3.6-percent gain for the coming year.

World stocks of nonfat dry milk products were unusually low by mid-1988, and international prices were double a year ago. For the first time in memory, commercial export demand for nonfat dry milk had become important in the U.S. dairy outlook. By September, markets tightened further and domestic prices were generally above international prices.

Livestock producers are adjusting gradually to the effects of the drought, without major liquidations or production cuts. Cash receipts for livestock in 1988 will be slightly above last year's $76.2 billion, but with higher feed costs, incomes will be lower. Beef production will be down in the fourth quarter, but pork up. Somewhat lower 1989 livestock output likely will lead to higher prices next year.

Although U.S. crop yields have been hurt by the drought, foreign production of major crops is generally up from last year. Lower stocks and reduced output sent U.S. prices received by farmers for crops up 14 percent in the third quarter from the second. Higher world prices mean smaller U.S. exports in 1988/89 and a decline in the U.S. share of the world market, following the rise that began in 1986.

Crop prospects in food-deficit developing countries are generally better than last year. While harvests will be greater, the countries need more food assistance to rebuild stocks that were drawn down heavily last year. Higher commodity prices this year have driven up the cost of food imports in developing countries and reduced the aid that each dollar of donor aid can buy. Consequently, volume of food aid to these countries is expected to be lower this year and next.

Late spring freezes, hail storms, hot and dry weather, and the stress of last season's heavy production of certain crops, brought 1988 noncitrus fruit output down a bit from last year's record. Output likely will be about the same as for recent years. Excessive heat and drought hurt the fall potato crop.

Volatile export markets have let producers of dry beans down since the early 1980's when bean exports were booming and prices were high. Bean consumption is low in the U.S. compared to other countries, so the declining export market is the major focus of dry bean producers. Dry bean production is down about 25 percent from last year.

The U.S. is importing more forage seeds than in the past, and farmers are paying higher prices for them. Last year's dry fall reduced grass seed output, and demand for seed has been up because of the vegetative cover required on Conservation Reserve Program acreage. Although the 1988 drought did not seriously hurt grass seed production, it did damage seed crops for hybrid corn and soybeans, which will see higher prices in 1989.

Extensive revisions back to 1960 have been made in the indexes of the U.S. dollar's value relative to foreign customer's and foreign export competitor's currencies. For the dollar, both high value and high volatility can hurt U.S. farm product exports.

Recent calculations based primarily on aerial photographs of 135 fast-growing counties show that urbanization of agricultural land probably absorbs well under 1 million acres per year, far less than some earlier studies had shown. A large percentage increase in urban area can result from a relatively small reduction in farmland.

A drought affects crop prices during the growing season, before the marketing year for the drought-stricken crop begins. Thus, a drought shifts the seasonal pattern of prices for two years—the marketing year for the reduced crop, and the marketing year for the previous crop.

When a reduced harvest is foreseen, prices at the farm rise immediately. Industrial prices, according to historical wheat price relationships, show their peak effect within a month, and then the effect slowly fades away over the coming year. Retail prices generally do not show their peak effect for about 7 months. The retail rise is smaller than the industrial rise, but is more persistent, and can last for 1 1/2 to 2 years.

Agricultural Economy

There likely won't be as many farms next year as there would have been without the 1988 drought. Financial hardships brought on by the drought have accelerated many of the forces that already were leading to fewer but larger farms, such as income shifts among farmers, expanding exports, adoption of new technology, growth of urban areas, and transportation cost increases.

Changes in farm size usually come about by consolidation. One farmer buys or rents land from another farmer. The total amount of land in farms need not change much during consolidation. It follows from simple arithmetic that if any two farms merge, the average farm size becomes larger. However, if one farm acquires only part of another, neither the land in farms nor the number of farms nor the average size changes.

What changes is the distribution of farms by size. So, the size distribution is of more concern in the process of consolidation than the average size; some farms get bigger, others get smaller or disappear.

Whether a farmer wants to change the size of farm depends on the present value of the product of the land relative to the market for the land. The prospective profits from a tract of land generally appear higher for the buyer (or renter-in) than for the seller (or renter-out). Also, the effective market price of a piece of land turns out to be higher for the buyer than for the seller. The buyer must add costs and fees related to acquisition, plus perhaps costs of moving equipment to a second location. The seller must deduct various selling costs and fees from the transaction price.

The different valuations placed by the buyer and seller on prospective returns and effective market prices for the same transaction lead to shifts in ownership of the nation's farmland without necessarily changing the quantity of land in farms. A cornfield sold this year is likely to have corn or some other crop on it again next year.

When farm income is rising, as it did during the 1970's, prospective buyers can bid up land values to attract sellers. When farm income is falling, as it did during the early 1980's, distress sales can push down land values and attract prospective buyers. When farm income for the sector as a whole is rising or falling, differences between different farms' cash flows, expected profits, and transaction costs tend to work like a ratchet, inducing transactions which boost the larger farms.

Boom and Bust Induce Consolidation Differently

Farm numbers peaked in 1935 and then declined rapidly until 1974—nearly 3 percent per year, from 6.81 million farms at the beginning of the period to 2.31 million at the end. During the 19th century, agricultural growth included increasing numbers of farms under 500 acres. But the decline in farm numbers since the early part of this century has been mostly through a reduction in the number of farms under 500 acres. The number of farms over 500 acres grew slowly and steadily throughout.

The trend toward fewer farms nearly stopped during the 1970's as export markets burgeoned, making farming more profitable relative to the operators' next best opportunity. Growth in export volume at higher prices during the 1970's raised the returns to farmland. Farmers with prospects for higher profits and larger cash flows bought or rented land from other farmers. And fewer farmers wanted to sell. During the 1970's this showed up as a bimodality—more larger and smaller farms, but fewer of middle size.

According to the 1982 Census of Agriculture (the last complete enumeration), the number of farms during the preceding decade held at 2.24 million, falling only 0.4 percent per year since 1974. Consolidation helped bid up land values. Rapid growth of export markets slowed the decline in total farm numbers, but the distribution continued to shift.

During the early 1980's, when agriculture suffered a squeeze from lower product prices and higher interest rates, profits to be made from farmland fell. Many farmers with reduced cash flows were forced to sell or accept foreclosure, and land values were pushed down. During this period, farmers with growth potential found chances to buy or rent at bargain prices. The 1987 census is expected to show fewer farms and more of the large ones. Thus, both the boom of the 1970's and the bust of the 1980's aided consolidation, but in different ways.

Drought Added to Pace

Export growth since 1986 would be expected to slow the exit of smaller farms. But this year the drought reallocated incomes—large losses for some farmers about offset by gains for others. As a result, the drought likely is taking its toll in farm numbers from farmers with larger losses.

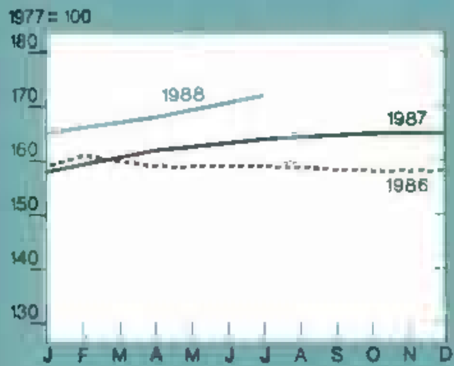
Farmers hurt most by the drought are offering land for sale or rent in sufficient numbers to slow the rise in land values that began last year, following 6 years of decline. This lowers the price of land relative to its value, leading to further consolidation by farmers with growth potential.

The drought is inducing consolidation differently in different regions. For farmers growing winter wheat in the Southern Plains, yields were high, and with drought-increased prices for wheat, the consolidation would be somewhat like that experienced in boom times, including a slowing in the rate of exit.

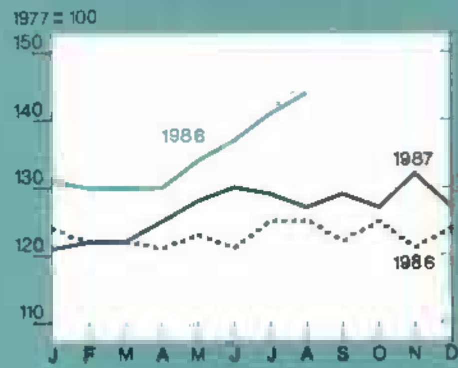
But for farmers growing spring wheat in the Northern Plains, production was down by half, incomes were cut, and the consolidation would be more like that experienced during bust times. The disaster assistance program will ease this financial pressure on some farmers.

Prime Indicators of the U.S. Agricultural Economy

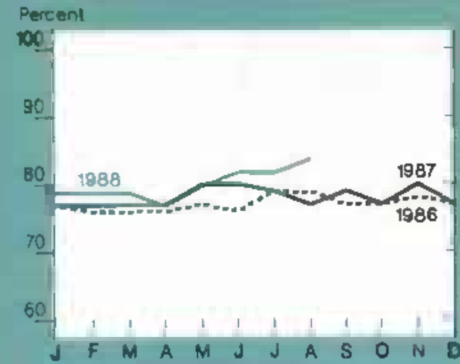
Index of prices paid by farmers[1]



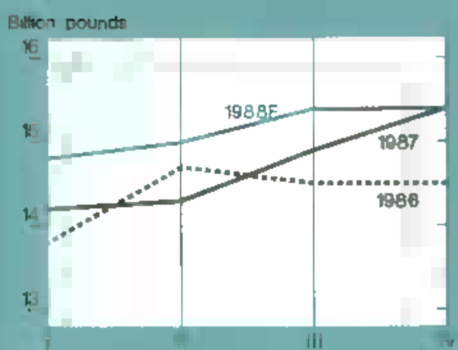
Index of prices received by farmers[2]



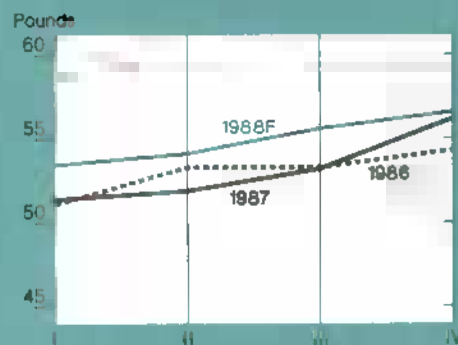
Ratio of prices received to prices paid



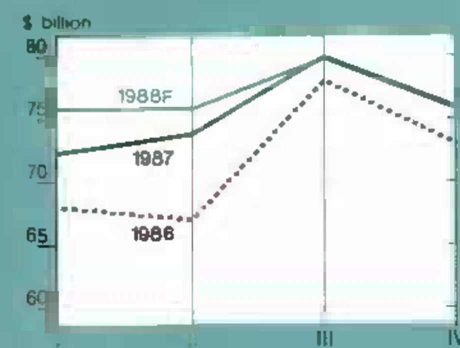
Red meat & poultry[3] production



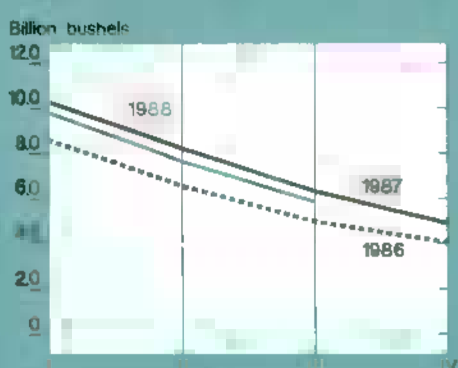
Red meat & poultry consumption, per capita[3,4]



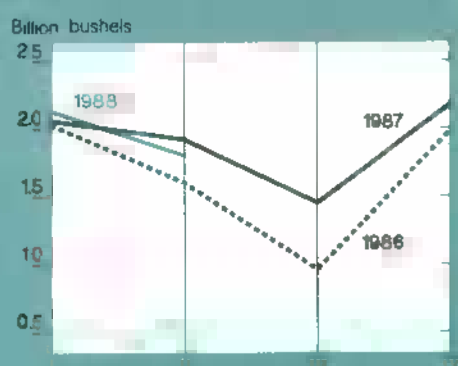
Cash receipts from livestock & products[5]



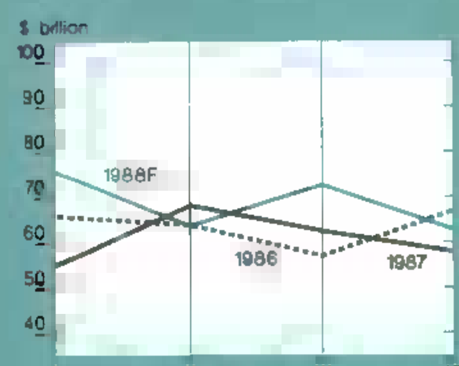
Corn beginning stocks[6]



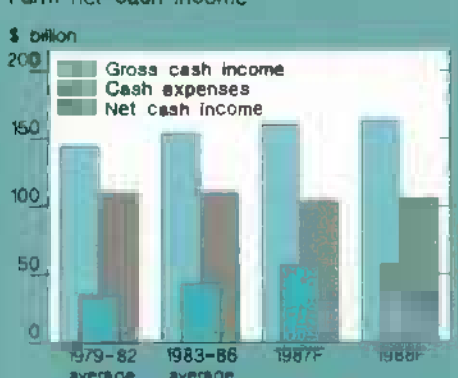
Corn disappearance[6]



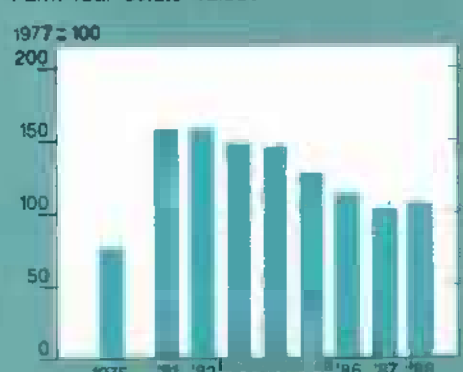
Cash receipts from crops[5]



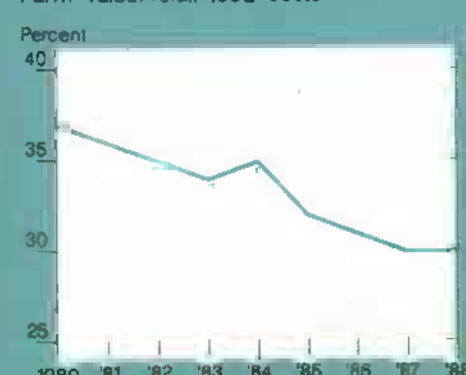
Farm net cash income



Farm real estate values



Farm value/retail food costs



[1]For commodities and services, interest, taxes, and wages. Beginning in 1986 data are only available quarterly. [2]For all farm products. [3]Calendar quarters. Future quarters are forecasts for livestock, corn, and cash receipts. [4]Retail weight. [5]Seasonally adjusted annual rate. [6]I = Dec–Feb.; II = Mar.–May; III = June–Aug.; IV = Sept.–Nov. F = forecast

Urbanization and Transportation Affect Land Transfers

Urbanization absorbs land from agriculture, forestry, and other rural uses. While this is not a major factor—it takes less than 1 million acres per year out of farms—it tends to increase the average farm size because disappearing farms on the urban fringe tend to be smaller than average.

Selling an entire farm for urban use therefore leaves fewer small farms and relatively more large ones. However, farmland is often sold for urban uses in parcels, or parts of farms. In that case, what is left behind after such transactions is more small farms, instead of more large ones.

Conversion of farmland to nonfarm uses in rural counties that have little nonfarm activity and depend on agriculture slowed this year in counties hit hard by the drought. The loss in nonfarm, as well as farm, income slowed the rise in land values there, giving one more turn to the ratchet that reduces farm numbers during bust times and increases the number of larger farms.

Rising transportation costs increase the cost of using land located a little distance from the home place, and lowers the effective price of a crop at the farm relative to its price at a distant market. Rising transportation costs affect farm numbers and farm size in much the same way as an increase in land values or rental rates would because they add to the cost of using land.

The drought's effect on transportation costs was mostly on long hauls by rail and barge from farm to port, not on short hauls of machinery and equipment down the road to a neighboring field, or on deliveries of products from the farm to a nearby market. So, higher transportation costs brought on by the drought mostly affect farm numbers through depressing incomes and land values in those areas further away from shipping ports or urban markets.

New technology raises the expected profits from land for those farmers who adopt it. These producers tend to be younger, with more education, more capital, and better resources. They adopt the technology, increase output, push down prices, and reduce the profits for those who did not adopt. This increases land sales by the technologically less sophisticated farmers and increases the acquisition of land by technology-adopters.

This year's events did little to change the rate of technological development and adoption. However, technology helps to sort out farms with greater expectations of profits through land acquisition—that is, farms more likely to increase in size as events such as this year's unfold.

Some Forces Work Against Consolidation

Countering the tendency to consolidation are several factors:

- selling off parcels of land for urbanization results in more small farms;
- nonfarm incomes help ensure survival of smaller operations, including part-time and hobby farms;
- some farms that produce specialty commodities appear small by some of the usual measures of size, yet are proving profitable and durable;
- larger farms sometimes reach a size beyond which they grow no more and may even break up into smaller farms; data from the Census of Agriculture that track the same farm from one census to the next indicate that large farms are just as likely to break into small ones as small farms are to blossom into large ones.

Factors such as booms and busts in the demand for farm products, urbanization, adoption of new technology, and changes in transportation costs were having their various effects when this year's drought hit.

At the margin, the drought did more than reduce crop yields and raise feed costs. It changed income distribution among farms, helped slow the rise in average U.S. farmland values that began last year, slowed the growth of nonfarm economies dependent on agriculture, and spurred the contraction or closing of some farms. *[Clark Edwards (202) 786-3313]*

LIVESTOCK OVERVIEW

Livestock producers are coping with substantially higher feed costs as a result of the 1988 drought. Feed grain and protein meal prices are up, and beef and dairy farmers in drought areas will face higher winter forage costs.

Producers are adjusting gradually, without major liquidations or drops in production. Cash receipts for livestock in 1988 will be slightly above last year's $76.2 billion, but with higher feed costs, incomes will be lower. Somewhat lower 1989 output likely will lead to higher prices next year. Dairy may have been affected most by the drought, reinforcing a downward production adjustment, which had already begun.

Less Beef in The Fourth Quarter

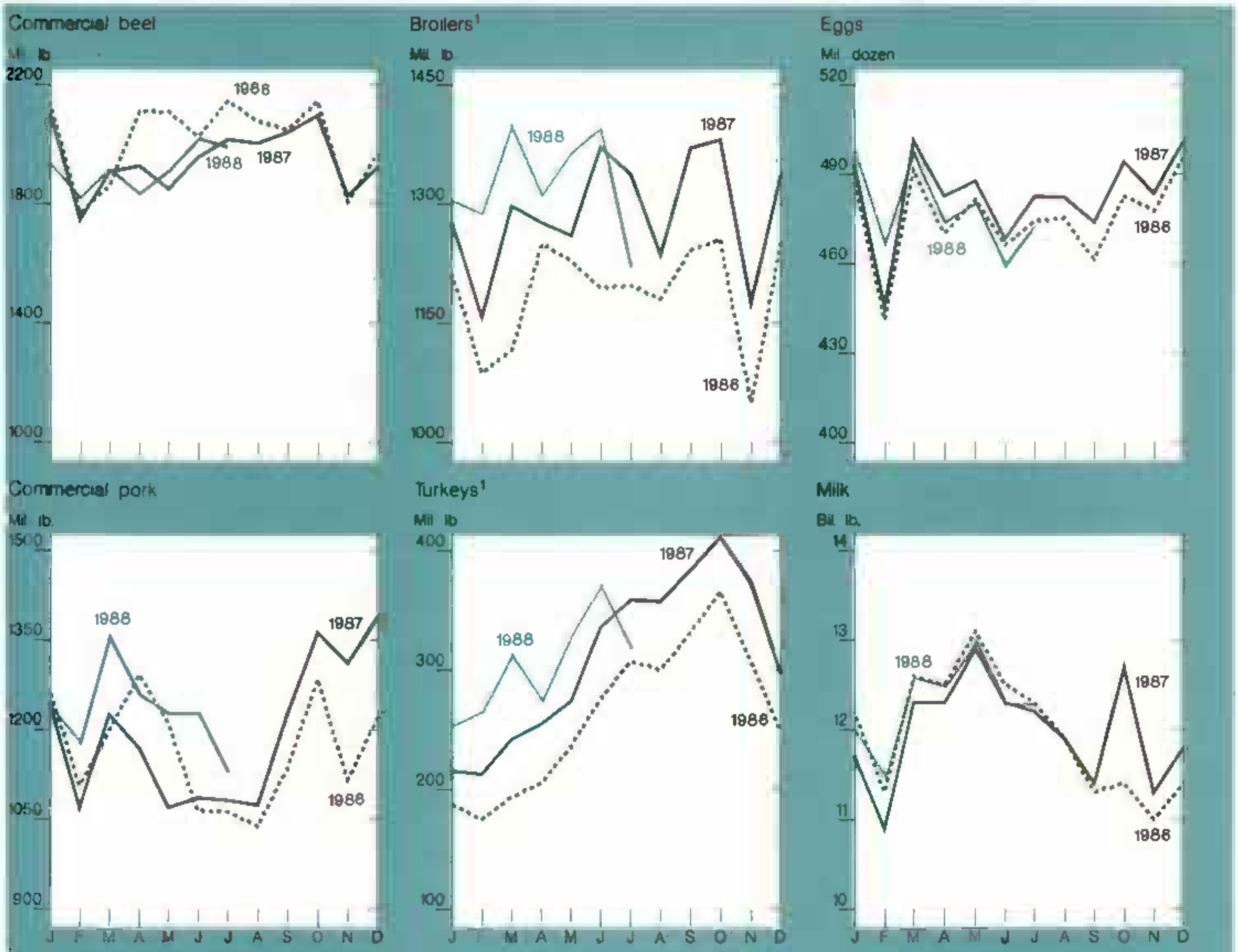
Commercial cow slaughter through the end of August remained 7 percent below a year earlier. Even so, this summer's drought likely resulted in some cows being slaughtered ahead of the normal culling period because of poor forage conditions. An even greater increase could occur later this year.

Third-quarter cow slaughter is expected to be about 1.6 million head, down 4 percent from 1987, but up 5 percent from the spring quarter. Third-quarter increases in cow slaughter are common, with this year's seasonal gain equal to the previous 5-year average.

Cow slaughter normally increases from the third to the fourth quarter as well, although the 5-year average of 18 percent is not expected. The fourth-quarter rise slowed to only 10 percent in 1986 and 5 percent in 1987.

Last year's gain was the second smallest in nearly two decades. An increase similar to 1987's is likely for this year. Fewer cows going to slaughter, as well as seasonally declining steer and heifer slaughter in coming months, should reduce available beef supplies during the remainder of the year.

August steer and heifer slaughter was nearly 9 percent above July and 8 percent above a year earlier. Feedlots continued to market cattle, although not as aggressively as the record in July. Marketings in August were slightly



¹Federally inspected production, ready-to-cook

below the 1.7-million-head record set in August 1987. Nearly 2.65 million steers and heifers were slaughtered in August, with 1.72 million coming from feedlots in the 7-State survey area.

September likely saw the largest monthly steer and heifer slaughter for the year; most of the record number of animals placed on feed this past spring probably moved to slaughter. Placements in feedlots this summer were well below the records of a year earlier.

Tight supplies of stocker cattle are expected to keep prices in the low to middle $80's. However, prospects for profitable returns later this year and into 1989 will keep placements above a year earlier in spite of the relatively high prices bid for these animals.

Slaughter cattle prices moved $5 higher during August, but larger numbers of fed cattle going to slaughter in September pushed fed cattle prices in Omaha back to the middle to upper $60's, $6 above a year ago but still below estimated breakeven prices for finishing these cattle.

The relatively strong prices this summer reflected increased demand for beef exports and continued strong demand by retail, hotel, restaurant, and institutional establishments at a time of nearly record high retail prices. Cattle prices could move even higher during the fourth quarter, as beef production declines by up to 10 percent from the summer quarter.

The stronger cattle prices are not expected to push retail beef prices much higher, however. Marketing margins should begin to narrow and a larger share of the consumer's dollar will be returned to producers.

Hog Output Expanding, Profit Margins Down

A sharp, more-than-seasonal drop in hog prices is under way, fueled by rising hog

slaughter. Weekly kills under Federal inspection have increased about 13 percent since midsummer. Bids for barrows and gilts have slipped to the low $40's per cwt in September, after averaging near $46 in August.

Further, more gradual erosion in barrow and gilt prices is expected through the fall, as the sizable spring pig crop comes to market. Fourth-quarter commercial pork production could reach about 4.35 billion pounds, 7 percent above a year earlier and the largest since 1979.

Barrow and gilt prices may average $38-$42 per cwt at the 7 major markets, down from $44 in 1987. Retail pork prices, which averaged $1.90 per pound in fourth-quarter 1987, are likely to weaken to $1.80-$1.85.

The *Hogs and Pigs* report released September 30 provided the first indication of the drought's effect on hog inventories. The extent of drought-induced liquidation and its effect on 1989 production have been debated among industry observers, and are critical to the outlook for hog and pork prices in the coming year.

Sharp increases in feed costs likely prompted some cutbacks in breeding stock in early summer, and additional liquidation is possible this fall as depressed hog prices and higher year-over-year feed costs tighten profit margins.

Broiler Production and Prices Up From 1987

The 12-city broiler price averaged 69 cents per pound during August, well above the 53 cents recorded a year earlier. The price gain resulted from strong demand and lower per capita supplies. Demand from retailers and fast-food restaurants continued above a year earlier.

Larger death losses that could be expected in a hot year such as this have not been reported by major producers. Total chicken meat supplies in July were even with a year earlier, after adjustment for differences in the number of slaughter days and a slower rate of gain.

Broiler prices likely averaged 67-68 cents per pound during the third quarter; summer barbecuing and other seasonal demands kept prices well above a year earlier until after Labor Day. Prices likely dropped from the upper 60's and lower 70's to the middle and upper 50's during September, as demand dropped and production recovered from the hot summer.

Fourth-quarter prices will soften seasonally, averaging 53-57 cents. The average price for 1988 is expected to be 55-57 cents, up from 47 in 1987.

Broiler production during 1988 is forecast to show a 4-percent rise. Production during January-July was 4 percent above a year earlier. May and June hatch and weekly chick placements in July were 2 percent above a year earlier.

With slaughter weights up slightly, third-quarter production probably will increase 3 percent. The hatching-egg flock was only 1 percent above a year earlier on August 1, after having been 4 percent higher on July 1. However, weekly chick placements were averaging nearly 4 percent higher during August. Fourth-quarter production is projected to increase nearly 3 percent.

Through molting of hatching-egg flocks, producers can probably maintain production 2-3 percent above a year earlier for first-quarter 1989. Production could then rise during 1989 toward the long-run trend of 4 percent per year.

Rising broiler prices set second-quarter net returns at 9.7 cents per pound. Higher feed costs during second-half 1988 and first-half 1989 should cut profit margins and limit production increases. However, with potentially lower per capita supplies of red meat in 1989, broiler producers could see firmer prices.

Prices during 1989 are expected to remain near 1988, averaging 51-57 cents. First-quarter prices, at 50-56 cents per pound, will remain near fourth-quarter 1988, but they should be well above the year-earlier 45 cents.

U.S. broiler exports during January-June 1988 were 353 million pounds, up 4 percent from a year earlier. Total value, however, was up only 1 percent because unit export values dropped 4 percent. Parts (which are predominantly lower priced parts) comprised 86 percent of exports, compared with 83 percent a year before.

U.S. broiler exports will face steeper price competition during the remainder of 1988 and through 1989. The sharp increases in U.S. prices have not been matched in Europe, and EC export subsidies are nearly 50 percent above a year earlier. The dollar has not been dropping in relation to European currencies this year as it did last.

Hurricane Gilbert wreaked havoc on the Jamaican poultry industry, presenting a need for increased U.S. poultry exports to the island and assistance in rebuilding the industry. Chicken accounts for 60 percent of the total meat consumed on Jamaica.

Before the storm, 60 percent of the chicken consumed was produced on the island and 40 percent imported from the United States. Jamaica is the fourth largest importer of U.S. broilers and the largest in the Caribbean. In 1987 and 1988, its imports represented about 8 percent of U.S. broiler exports.

Turkey Production Down in Second Half

Turkey producers likely are cutting output during second-half 1988, after facing negative net returns for an entire year. Production for all of 1988 is expected to average less than 5 percent above 1987, after increasing 19 percent in 1987. Cumulative placements for 1988 slaughter were only 2 percent ahead of a year earlier. Production during January-July was 13 percent larger than a year earlier.

Poult placements suggest third-quarter production decreased 5 percent from a year earlier. Fourth-quarter production probably will fall another 5 percent as producers respond to rising feed costs. The September *Turkey Hatchery* report indicated that placements during March-August 1988 were 5 percent below a year earlier.

With output reduced and prices stronger, net returns became positive during July and August, and they are expected to remain positive but small during the rest of 1988, even though rising feed costs began to narrow margins in September.

With net returns on the positive side during third- and fourth-quarter 1988, turkey production in 1989 is expected to

increase approximately 1 percent. Output probably will surpass a year earlier by second-quarter 1989 if profit potential still looks positive when the corn and soybean crops are harvested.

August 1 turkey stocks, at 503 million pounds, were approximately 6 percent greater than a year earlier. Beginning fourth-quarter stocks are expected to be 620 million pounds, about 3 percent below the record of 1987.

Per capita consumption during the fourth quarter is expected to be slightly above fourth-quarter 1987. For all of 1988, consumption is forecast to rise 9 percent, to 16.5 pounds per capita. With a 1-percent production increase projected for 1989, consumption should remain near 1988.

Turkey prices for Eastern region hens were 70 cents per pound during August, above the 56 cents recorded last year. Prices likely will continue rising seasonally as holiday buying picks up during the fourth quarter and production continues to slow.

Hen turkey prices in the Eastern region probably averaged 72-73 cents during the third quarter. Greater pork supplies during the fourth quarter likely will hold turkey prices in the 78-82 cent range. Prices for all of 1988 may average 62-64, above the 58 cents of 1987.

With projected first-quarter 1989 production below a year earlier, turkey prices likely will average 62-68 cents, substantially above the 49 cents received in first-quarter 1988. Prices throughout 1989 should be above 1988, and per capita supplies below. Prices for 1989 are projected to average 68-74 cents.

Table Egg Production Down

The flock size on August 1 was down 6.6 percent from the most recent cyclical peak of November 1987 and down 3.5 percent from a year earlier. The flock is expected to remain below 1987 for the rest of the year.

May, June, and July egg-type hatch numbers were 12, 11, and 26 percent below a year earlier, respectively. On August 1, the number of eggs in incubators to produce layers was 24 percent below a year earlier.

During January-July, table egg production was down 1.1 percent; however, July production alone was 2.5 percent below a year earlier. For the remainder of 1988, production is expected to be well below a year earlier, because of the much smaller laying flock.

Wholesale prices moved sharply higher from mid-June to late July. In the 5 weeks between June 20 and July 29, wholesale grade A prices in New York increased from 54.5 to 77.5 cents per dozen, a 42-percent rise. During August, prices fell to 66.5 cents.

For the first 7 months of the year, total egg production (table and hatching types) was 0.3 percent below a year earlier. Third-quarter production likely was near 1,410 million dozen, a decline of nearly 2 percent from a year earlier. For the fourth quarter, a drop of nearly 3 percent is expected.

First-quarter 1989 output is estimated at 3 percent below the previous year, as the effects of a much-reduced laying flock persist. For 1989 in total, a decline of over 1 percent is expected.

Third-quarter egg prices likely were 71 to 72 cents per dozen. Fourth-quarter prices are expected to be between 71 and 75 cents. For all of 1988, prices are expected to average between 62 and 64. The 1989 outlook calls for New York wholesale prices to strengthen to 70 to 76 cents.

Third-quarter net returns were projected to be negative by 3 to 4 cents per dozen, but returns likely will rise to near breakeven through second-quarter 1989. Third-quarter 1989 returns are expected to turn positive, while a strong performance is expected in the fourth quarter of next year.

Per capita consumption for 1988 is forecast at 243 eggs, down 6 eggs from 1987. The forecast for 1989 is 237.

Drought Helps Lower Supplies of Milk, Cheese

Cheese prices accelerated in August, following slow, steady rises during late June and July. In early September, cheddar prices on the National Cheese Exchange had risen almost 17 cents per pound for barrel style and 15 cents for 40-pound blocks. These increases were generated by weakening milk production, brisk cheese sales, low cheese stocks, and rising prices for nonfat dry milk.

Milk production was already losing momentum before the sharp feed cost increase created by the drought. Although milk per cow recovered somewhat in July as animals adjusted to high temperatures, milk production probably will slip below a year earlier during the second half of 1988.

Milk cow numbers likely will decline during the rest of the year, and low milk-feed price ratios should keep the increase in milk per cow relatively small.

Commercial stocks of American cheese totaled only 305 million pounds on August 1, the lowest on that date in almost three decades. Holdings may not be sufficient to assure smooth flows through marketing channels this autumn. Additionally, cheese plants will not find it easy to pull milk away from butter-nonfat dry milk plants because of strong prices for nonfat dry milk.

Commercial cheese use rose 4 percent from a year earlier during April-June, boosted by favorable retail prices and consumer incomes. Sizable gains were indicated for early summer. Cheese demand may strengthen further in late 1988. Direct Federal donations to the needy ended last spring. These consumers will buy some cheese when their stocks of donated cheese are exhausted.

Cheese markets are likely to be tight during the rest of the year. However, most of the seasonal price rises probably have already occurred.

Plants producing American cheese now have an advantage over other manufacturers in competing for milk, and butter prices may slip as more cream becomes available. Unless milk output drops suddenly or international prices of nonfat dry milk jump again, further cheese price rises probably will be modest.

For further information, contact: Kevin Bost, hogs; Mark Weimar, Bob Bishop, and Larry Witucki, broilers, turkeys, and eggs; Steve Reed, cattle; and James Miller, dairy. All are at (202) 786-1285.

FIELD-CROP OVERVIEW

The higher world market prices that will come with tighter U.S. supplies of most crops in 1988/89 mean smaller U.S. exports and a decline in the U.S. share of the world market of some crops, after several consecutive years of recovery. The U.S. will also lose market share in rice, the only major U.S. field crop whose production is expected to gain in 1988/89.

Wheat Production, Supplies Decline

Significantly diminished domestic wheat production and declining beginning inventories have reduced U.S. supplies. Forecast at 3.1 billion bushels, supplies are down about 22 percent from a year earlier, to the lowest since 1979/80. Production in 1988/89 is projected at 1.8 billion bushels, 14 percent below 1987/88.

The drought severely cut production of spring wheat in the northern Central Plains States. Hard red spring wheat outturn in 1988/89 is forecast at 182 million bushels, more than 50 percent below last year. However, the quality of this year's hard red spring and durum may be higher than earlier anticipated.

Because of lower stocks and reduced output, the season-average market price for wheat is forecast between $3.55 and $3.95 per bushel, up from $2.57 in 1987/88. Stocks are likely to fall below 550 million bushels by the end of 1988/89. Half of the ending wheat stocks may be in the Farmer-Owned Reserve, with an additional 175 million in CCC inventories.

For 1987 and 1988, more than 23 million wheat acres were taken out of production. For 1989 crops, smaller Acreage Reduction Program requirements will lead to greater planted area.

Competitors' export supplies are also down in 1988/89. Drought has cut Canada's wheat crop more than 40 percent and beginning stocks were relatively low. Argentina's production is expected to fall because dry weather cut plantings this summer.

However, the European Community has large stocks and a good crop. Higher world prices have cut the cost of EC export subsidies. How much its exports will expand depends largely on how aggressively the EC promotes sales.

The volume of world wheat trade is down 11 percent this year. Higher prices are rationing exporters' smaller supplies, and production among major importers is up. The Soviet Union, where production recovered after a poor crop last year, is expected to cut its imports by one-third.

China, Eastern Europe, and a number of smaller importers are also likely to import less. Only a few countries, mostly in Asia, are expected to import more this year, because cereal stocks are being rebuilt after last year's drought.

U.S. wheat exports during 1988/89 (July/June) are projected to total 39.9 million tons, 8 percent below last year. The U.S. market share will rise slightly to 43 percent. Canada's exports and market share will drop sharply. Canada is expected to export only 11.6 million tons of wheat, about half of last year's total. EC exports are expected to expand to 18 million tons.

Foreign Coarse Grain Output Rises

While the drought cut 1988/89 U.S. coarse grain production by 37 percent, foreign production is unchanged. Foreign producers are harvesting a record corn crop, and their sorghum production is up too. Foreign barley production is down, though, because of smaller crops in Canada and the USSR.

Foreign exporters' production of coarse grains is forecast about equal to last year, despite 25 percent lower output in Canada, where the crop is the smallest in 9 years. Importer production is down only 2 percent, and most of that is because of a smaller barley crop in the USSR. Last year's Soviet coarse grain crop was exceptionally good.

Despite good foreign crops and higher prices, a small increase in world coarse grain trade in 1988/89 is forecast. The 86 million tons of total trade will mark the fourth consecutive year in the 82-86 million ton range. This is more than 20 million tons below the peak of the early 1980's.

Corn and barley trade are both expected to increase, while sorghum will show little change. Larger exports by Thailand and Argentina will offset smaller U.S. shipments of corn, and EC barley exports will grow as U.S. and Canadian shipments drop. The U.S. share of the world coarse grain market is forecast to drop to 56 percent from 64 in 1987/88.

U.S. Corn Production Reduced Further

Drought-parched U.S. corn production in 1988/89 is forecast under 4.5 billion bushels, more than one-third below last year's outturn and almost half of the year before. Beginning inventories for 1988/89, at over 4.3 billion bushels, ensured ample supplies for the year and dampened price fluctuations.

Taking advantage of early-season dry and mild conditions, farmers put in much of the corn crop somewhat earlier than usual. However, drought stressed the crop throughout June, July, and August. Iowa corn yields are down over 60 percent this year from last. Illinois and Indiana are down by almost half, and Ohio is down more than 40 percent. Nebraska, where much of the corn crop is irrigated, is down 15 percent.

Reduced supplies are changing consumption patterns. Corn fed to livestock is forecast to decline to 4.4 billion bushels, from around 4.7 billion in recent years. Corn exports likely will drop 4 percent from a year earlier, to only 1.65 billion bushels. Despite the shortfall and increased competition from Southern and Northern Hemisphere countries, though, the United States will continue to dominate world corn markets.

World Rice Trade Rebounds

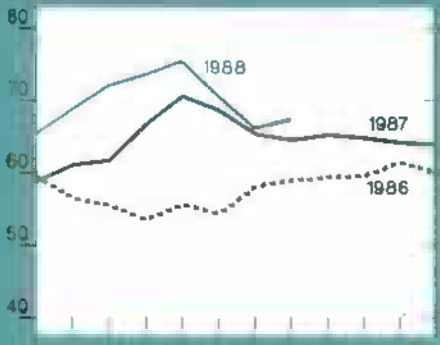
The world will harvest a near-record rice crop in 1988/89, with production up 4.5 percent as Asia recovers from last year's poor monsoon. India and Thailand are projected to have record or near-record crops after sharp reductions last year. China's output is forecast down only slightly, despite both drought and flooding in parts of the central and southern rice regions.

World rice trade during calendar 1989 is expected to rise 9 percent to 12.4 million tons. Larger exporter crops, particularly

Commodity Market Prices

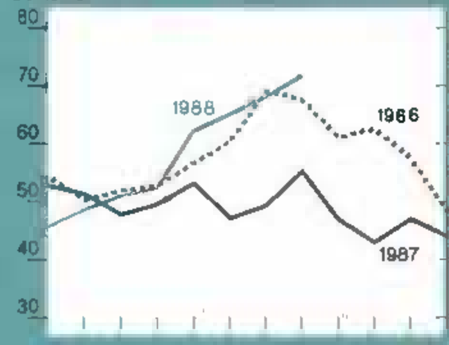
Choice steers, Omaha[1]

$/cwt.



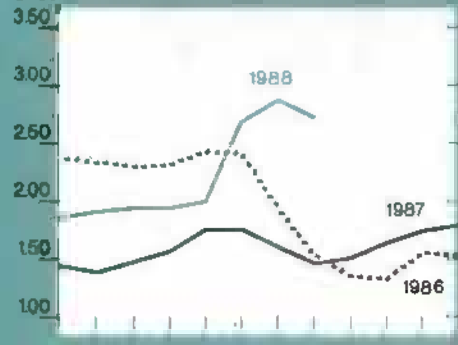
Broilers, 12-city average

Cents/lb.



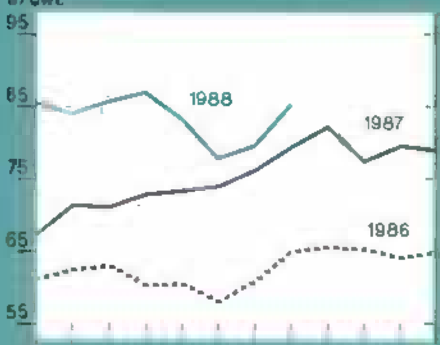
Corn, Chicago[3]

$/bu.



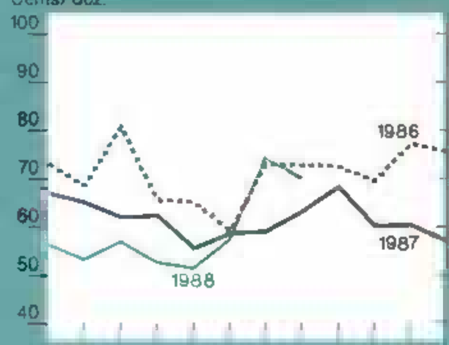
Feeder cattle, Kansas City[1]

$/cwt.



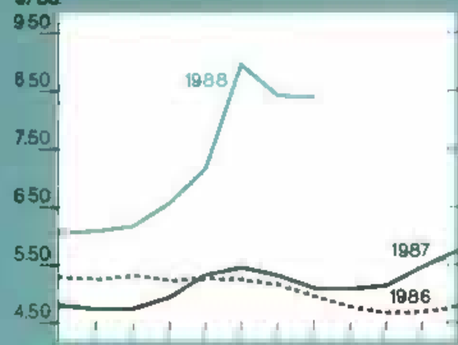
Eggs, New York[2]

Cents/doz.



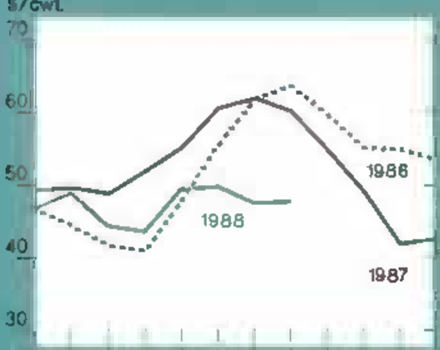
Soybeans, Chicago[4]

$/bu.



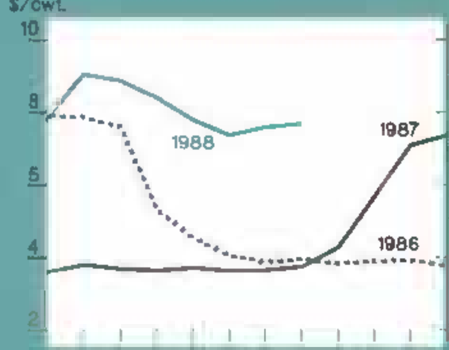
Barrows and gilts, 7 markets

$/cwt.



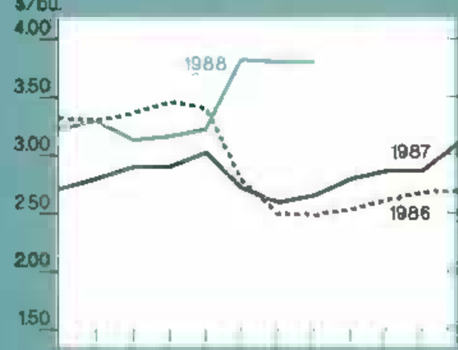
Rice (rough), SW Louisiana

$/cwt.



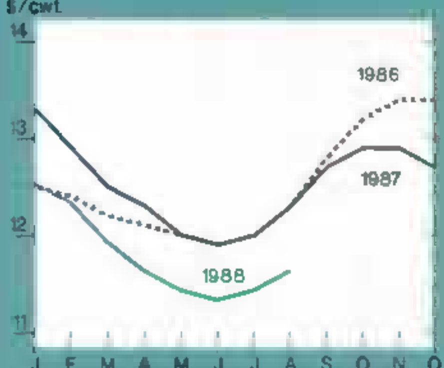
Wheat, Kansas City[5]

$/bu.



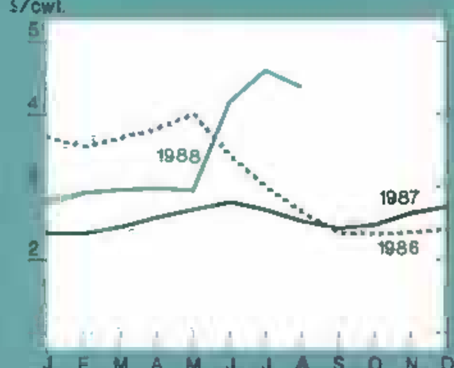
All milk

$/cwt.



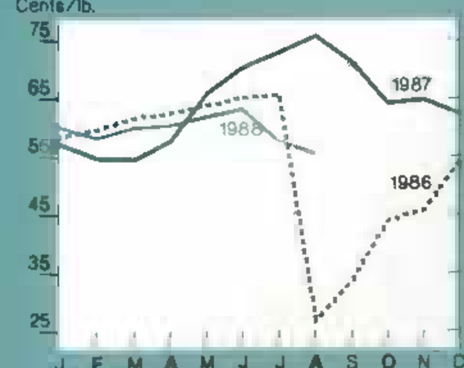
Sorghum, Kansas City

$/cwt.



Cotton, average spot market

Cents/lb.



[1]600-700 lbs., medium no. 2. [2]Grade A large. [4]No. 1 yellow. [3]No. 2 yellow. [5]No. 1 HRW.

in the United States and Thailand, will ease this year's tight world supplies of long grain rice. Although U.S. exports will rise somewhat, the recovery of Thai exports will drop the U.S. share of the world market from last year's unusually high 22 percent. Low world stocks will limit price declines.

U.S. rice outturn for 1988/89 is forecast at 152 million cwt, substantially above last year. Yields, however, are forecast at 5,332 pounds per acre, down about 3 percent from 1987/88 and the lowest since 1984.

Lower yields partially mask the impact of a greatly expanded harvested area. Harvested rice area is estimated at almost 2.9 million acres, 23 percent more than 1987/88 and the largest since 1982/83.

The increase in area includes all major producing States. Texas may lead the way with an expansion of almost 50 percent.

In all five of the major rice-producing States (Arkansas, California, Louisiana, Mississippi, and Texas), the crop developed at an average pace, with about 80 percent headed by the end of August. Nonetheless, the crop was well behind the rapid development of 1987/88.

Going into 1988/89, stocks were down 20 million cwt from a year earlier and 46 million from 2 years earlier, largely because of last year's lower output. So, domestic supplies are largely unchanged in 1988/89.

Domestic use and exports are likely to expand, and ending rice stocks for the year are forecast to fall by about 10 percent to under 29 million cwt—all free stocks. A season-average price of $5.00 to $7.00 per cwt is likely this year, down from $6.95 in 1987/88 but well above the $3.75 of 1986/87.

Foreign Oilseed Crops Large

The world harvest of oilseeds in 1988/89 will drop only 2 percent from last year's record despite a 19 percent smaller U.S. crop. Foreign crops of soybeans, cottonseed, peanuts, and sunflowerseed will all increase. Higher prices resulting from the poor U.S. crop are expected to lead to sharply higher Southern Hemisphere plantings this fall.

The combined soybean area of Brazil and Argentina is forecast to rise 13 percent, and soybean production in the two countries is expected to total a record 31 million tons. But smaller crops of major oilseeds are projected in the European Community, because EC policymakers weakened production incentives and poor weather reduced yields. This is the first decline in EC production since 1976/77.

With prices higher, the volume of world oilseed trade in 1988/89 is expected to fall 11 percent. Soybeans will account for most of the drop. U.S. soybean exports are expected to decline 30 percent to 15 million tons (550 million bushels).

The U.S. market share will drop from 72 percent in 1987/88 to 59 percent this season. U.S. exports of soybean meal and soybean oil will show even larger percentage declines. The combined soybean exports of Argentina and Brazil are likely to increase 39 percent.

The 1988 U.S. soybean crop likely will be the smallest in over a decade. Domestic soybean production forecasts continue to show the yield impacts of summerlong heat and drought throughout the upper Midwest. In contrast, soybeans in the Southeastern United States continue to prosper.

U.S. outturn in 1988/89 is forecast at under 1.5 billion bushels, down from 1.9 last year. Although prices for beans, meal, and oil have retreated from their seasonal peaks, bean and meal prices will average for the year at decade highs.

Changes in Cotton Program Boost Export Prospects

Through much of 1988, U.S. cotton has been largely uncompetitive in world markets. Recent modifications in the U.S. cotton program increased U.S. competitiveness and will mean more exports in 1988/89 than previously forecast.

But, large competitor crops and sales early in the year are expected to hold U.S. exports 1.3 million bales below the 6.6 million shipped in 1987/88. This drops the U.S. share of the world market to 22 percent, from 27 percent last year.

Program changes include revisions not only in methods to estimate the transportation adjustment and other adjustment factors, but also in provisions of the price support loan program.

When the U.S. upland cotton loan rate plus the sum of accrued interest and warehouse charges exceeds the adjusted world price, the Commodity Credit Corporation will not require payment of that portion of the interest. CCC will pay that portion of the warehouse charges that are determined necessary to permit upland cotton loan collateral to be redeemed with cash at the adjusted world price.

U.S. cotton production for 1988/89 is forecast at 14.7 million bales, slightly below 1987/88. Area harvested likely will be up 16 percent, but yields will be well below last year's record 706 pounds per acre. Carryin supplies, more than 5.5 million bales, are the largest since 1966.

Cotton stocks are expected to build significantly during 1988/89. Domestic mill use is forecast at 6.9 million bales, down about 10 percent from the average of the 2 previous years.

A decline in U.S. exports will limit total use to just over 12 million bales, compared with more than 14 million in recent years. By the end of the season, domestic cotton stocks may exceed 8 million bales, almost 50 percent above 1987/88. *[Frederic Surls (202) 786-1824 and James Cole (202) 786-1840]*

For further information, contact: Sara Schwartz, world food grains; Edward Allen, domestic wheat; Janet Livezey, domestic rice; Peter Riley, world feed grains; James Cole, domestic feed grains; Tom Bickerton, world oilseeds; Roger Hoskin, domestic oilseeds; Carolyn Whitton, world cotton; Bob Skinner, domestic cotton; Jim Schaub, domestic peanuts. World information (202) 786-1824; domestic (202) 786-1840.

Generic Certificate Update

As of July 31, 1988, about $21.8 billion of generic certificates had been issued since April 1986. Certificate redemptions as of September 6, 1988, totaled $19.7 billion. Cash redemptions for certificates totaled an additional $90.3 million as of August 10, 1988, placing near-term availability of certificates at $2.0 billion.

Certificate exchanges during June-August totaled more than $3.6 billion. This was the largest volume exchanged in a single quarter since the program began in April 1986. The activity was due in part to the drought-induced spike in feed grain prices.

Certificate exchanges have slowed somewhat in recent weeks. Weekly exchanges from mid-July through September 6 averaged approximately $120 million, down from over $250 million a week from June through mid-July.

Corn continues to account for the majority of exchanges, about 84 percent since May 31, 1988. Over 390 million bushels of CCC-owned corn were exchanged during June-August, approximately 34 percent of total corn exchanges during the period.

By contrast, only 19 million bushels of CCC-owned wheat were exchanged during June-August. Exchanges for wheat are typically light over this period because of the availability of new-crop wheat.

Bids for generic certificates during August ranged from par to 101 percent of face value.

A decision was due by October 1 on whether any portion of the program payments to be mailed to farmers in October will be made in certificates. These payments total approximately $3 billion. They include 1987 Findley deficiency payments for corn and sorghum and annual rental payments due participants in the Conservation Reserve Program.

If certificates are not included in these payments, the primary source of certificates in the near term will continue to be bonuses paid through the Export Enhancement Program (EEP). Issuances in the form of EEP bonuses have averaged approximately $50 million a week since October 1987.

The recent high volume of exchanges suggests tight supplies over the coming months, with the tightness becoming more acute later this fall if the demand for CCC-owned wheat increases as it did last year and demand for CCC-owned corn remains high. *[Joe Glauber (202) 786-1840]*

Cumulative Generic Certificate Exchanges as of September 6, 1988

Commodity 1/	Unit	CCC Inventory 2/	Producer loans	Total
Food grains				
Wheat				
Volume	Mil. bu.	749.7	622.3	1,372.0
Value	Mil. $	1,928.6	1,574.7	3,503.3
Rice				
Volume	Mil. cwt	42.2	0.4	42.5
Value	Mil. $	154.0	1.6	155.6
Feed grains				
Corn				
Volume	Mil. bu.	1,262.9	7.077.1	8,340.0
Value	Mil. $	2,553.2	12.108.9	14,662.0
Grain sorghum				
Volume	Mil. bu.	150.0	459.0	609.0
Value	Mil. $	276.5	662.0	938.5
Barley				
Volume	Mil. bu.	92.4	160.9	253.3
Value	Mil. $	145.2	262.9	408.0
Cotton				
Volume	Mil. bales	.90	6.32	7.22
Rye, oats, soybeans				
Value	Mil. $	23.8	34.0	57.8
Total value 3/	Mil. $	5,081.2	14,644.0	19.725.2

1/ Other program commodities, for which few or no exchanges have been made, include honey, nonfat dry milk, butter, and cheese. 2/ CCC loans as of September 2, 1988. 3/ Does not include values for cotton exchanges.

Source: Agricultural Stabilization and Conservation Service, USDA.

Certificate Issuances and Exchanges, April 1986 to August 1988

Period	Carryin	Issuances	Exchanges: Corn	Exchanges: Wheat	Exchanges: Other	Carryout	Premium
	$ mil.						Percent
Apr.-Nov. 86	0.0	2,725.7	875.0	385.8	247.3	1,217.6	113.1
Dec.-Feb. 87	1,217.6	2,004.5 1/	1,035.2	180.6	82.2	1,923.9	105.4
Mar.-May 87	1,923.9	3,407.9	2,565.1	539.2	178.0	2,049.6	103.4
June-Aug. 87	2,049.6	1,240.6 2/	932.5	217.3	73.7	2,066.6	106.5
Sept.-Nov. 87	2,066.6	3,127.9 3/	1,682.2	419.6	210.3	2,882.5	105.5
Dec.-Feb. 88	2,882.5	4,838.6	2,460.3	953.2	290.0	4,017.6	103.7
Mar.-May 88	4,017.6	2,723.8	2,077.1	534.2	169.7	3,960.4	100.1
June-Aug. 88	3,960.4	1.721.5 4/	2,981.9	269.3	305.5	2,125.2	99.4

1/ Through 1/31/87. 2/ Through 7/31/87. 3/Through 10/31/87. 4/Through 7/31/88.

HIGH-VALUE CROP OVERVIEW

Noncitrus Fruit Output Down, Citrus Prospects Good

Despite late spring freezes, hail storms, hot and dry weather, and the stress of last season's heavy production on apple trees, 1988 noncitrus fruit output likely will be about the same as in recent years. However, it will be short of the 1987 record.

September 1 forecasts of production for 11 major tree fruits and grapes stood at 12.9 million short tons, down 10 percent from last year, but 7 percent above 1986. A 23-percent drop in apple production led the decline, overshadowing gains in grapes and peaches.

The September 1 forecast places 1988 apple production at 4.04 million short tons, down from 5.3 million last season, but up from 3.9 million in 1986. The greatest drop will occur in Washington State, where tree stress from last year's large crop, combined with varied bloom and fruit set this spring, diminished production prospects.

Dry and hot weather in the Central States kept apples there small and light. Timely July rains in New York and New England helped apple size there, but production is forecast below last season.

Grape production will exceed 1986 and 1987 by about 5 percent. Typically, about 90 percent of U.S. grapes are grown in California.

Peach production exceeded 1987's output by 4 percent despite dry conditions in the Eastern States and extensive hail damage in South Carolina. Pear output is down 13 percent from last year's record, but it is 7 percent more than in 1986.

Citrus output in 1988/89 probably will exceed last season. Rainfall generally was adequate throughout the summer, and trees of all ages show abundant new growth.

The 1988/89 California navel orange crop is forecast 11 percent higher than last season and 1 percent higher than 1986/87. Industry estimates for California-Arizona lemons place the 1988/89 crop larger than last season.

Fall Potato Crop Smaller

U.S. potato production likely will decline 5 to 7 percent from 1987 despite large winter and spring output. Drought-reduced yields and lower acreage cut summer output 14 percent from a year earlier. Excessive heat and drought hurt the all-important fall crop. Fall potatoes account for about 88 percent of all production. Grower prices will average higher than in 1987.

Dry bean production was forecast on September 1 at 19.8 million cwt, down 25 percent from last season and 13 percent below 1986. Production is expected below the average of the previous 3 years in Michigan, Idaho, and North Dakota. However, dry bean output in Colorado and Nebraska likely will rise.

Dry beans in Minnesota and North Dakota, grown without irrigation, suffered the most damage from the summer drought. With yields 50 percent or more lower than last year and acreage for harvest down 7 percent, Minnesota and North Dakota output will decline about 54 percent. Michigan dry bean output will decline nearly 50 percent from last season, because of a 43-percent drop in harvested area and a 13-percent reduction in yields. Grower prices for dry beans will exceed last season's.

Midwest vegetable canners report less-than-planned output of green peas, snap beans, sweet corn, beets, carrots, and lima beans because of the drought. F.o.b. prices for most of these products by late summer were 25 to 35 percent above last year. The Consumer Price Index for processing vegetables changed very little during the summer, but it may rise this fall and winter, as higher wholesale prices work their way through the marketing channel.

Contract production of processing tomatoes rose 9 percent from last season. This production accounted for almost 99 percent of all processing tomatoes in 1987. Most processing tomatoes are grown in California and were not hurt by dry weather.

Drought Dims Sugar Production Prospects

U.S. beet and cane sugar production for crop year 1988/89 is forecast at 6.8 million short tons, 7 percent below last season.

Beet sugar accounts for the fall; the drought reduced beet yields in Minnesota, North Dakota, Michigan, and Ohio. Sugarbeet production in Minnesota and North Dakota, which usually produce about 30 percent of the U.S. crop, is forecast 23 percent lower than last season.

Cane sugar output is forecast at 3.38 million tons, up almost 50,000 from last year. Florida's sugarcane is in good condition. Weather was favorable for growth during August.

Sugar yields in Hawaii were running below a year earlier in August as a result of heavy rains and high night temperatures. Louisiana sugarcane is shorter than normal but ample August rain caused some recovery in growth.

U.S. sugar deliveries totaled 6.05 million tons during the first three quarters of 1987/88, compared with 5.90 million for the same period a year earlier. Sugar consumption for 1987/88 is estimated at 8.25 million tons, 2.5 percent higher than the previous year. The growth, which results from increased use in bakery, cereal, confectionery, and dairy products, likely will continue during 1988/89, but at a slower pace, reaching about 8.35 million tons.

U.S. raw sugar prices fell more than 2 cents per pound, from nearly 24 cents, following the July 22 announcement of a 300,000-ton increase in the U.S. sugar import quota. The quota for 1988 stands at 1.057 million tons.

Tobacco Production Up, Prices Weaken Slightly

Tobacco production is forecast up 10 percent from 1987 because of more acreage and higher yields. Despite dry weather in July and early August, both flue-cured and burley yields are higher than last year. However, last year's burley yields were down because of dry weather and poor curing conditions, and this year's yields are still below normal.

With prospects for larger production, midseason auction prices for flue-cured tobacco were running slightly lower than a year earlier despite higher supports for 1988, relatively good quality, and larger exports.

Although domestic cigarette consumption is falling, larger cigarette production was encouraged by greater exports, particularly to Asian markets where trade restrictions have been lifted.

Exports of unmanufactured tobacco in the first 6 months of 1988 rose 21 percent from last year. The hike resulted from relatively good quality in the 1987 flue-cured crop, a less expensive dollar, and delayed shipment of some 1987 sales. Total leaf exports for 1988 probably will exceed last year. *[Glenn Zepp (202) 786 1883]*

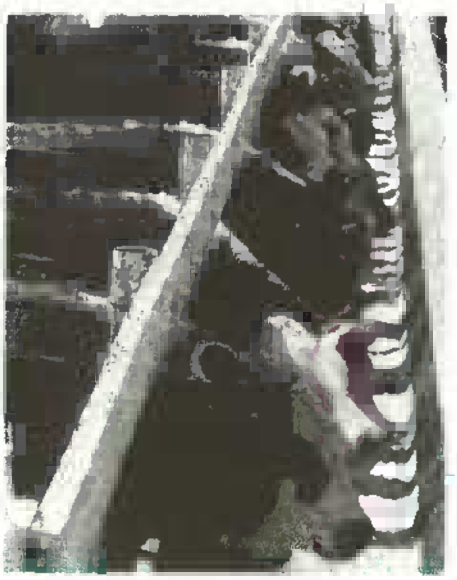
For further information, contact: Ben Huang, fruit; Shannon Hamm, vegetables; Peter Buzzanell, sweeteners; Verner Grise, tobacco. All are at (202) 786-1886.

Upcoming Economic Reports

Summary Released

October

12 World Ag. Supply & Demand
18 Rice
19 Dairy
20 Agricultural Outlook
24 Foreign Ag. Trade of the U.S.
27 Oil Crops
28 World Food Needs & Availabilities
National Food Review



Commodity Spotlights

Nonfat Dry Milk Exports Raise U.S. Prices

International markets for nonfat dry milk products changed between mid-1987 and mid-1988. In mid-1987, international prices had just risen slightly because of fairly strong import demand by less developed countries. However, large stocks made further price gains problematic. Support stocks were large in the EC despite efforts to shrink them. The U.S. surplus had been lowered but was still sizable.

By mid-1988, world stocks were low and international prices had doubled. For the first time in memory, commercial export demand for nonfat dry milk had become important in the U.S. dairy outlook.

The ultimate cause of the tighter markets was the drop in EC and U.S. milk surpluses after the early 1980's. The EC used milk production quotas to reduce output. In the United States, lower support prices, the Dairy Termination Program, and a growing domestic market dropped the surplus. Reduced production of nonfat dry milk did not affect international prices immediately because stocks were still large.

By mid-1987, government stocks were dropping rapidly. U.S. Government stocks were 157,000 metric tons, only one-fourth of their 1984 peak. The EC had been less successful at reducing stocks, and intervention stocks, although falling, still came to 777,000 tons. A year later, the EC and the United States together had less than 100,000 tons in support stocks.

In mid-1987, international prices were about $800 per metric ton, up from about $700 at the start of 1987 but less than half the domestic U.S. price. Since then, international prices have risen steadily, reaching $1,600-$1,700 by mid-1988. By mid-1988 the international market was already pulling domestic nonfat dry milk prices above the U.S. support purchase price of $1,604 per ton, and support purchases ceased.

By early September, conditions had tightened further. Essentially no government-owned nonfat dry milk was available for purchase anywhere in the world. U.S. producers had made agreements to export at least 65,000 tons, mostly for delivery by the winter of 1988/89. U.S. domestic prices generally were above the international prices of $1,700-$1,800 except on the West Coast.

Higher international prices and exports of nonfat dry milk substitutes helped raise prices for the substitute products. In mid-1988, dry buttermilk prices were pushed up about equal to nonfat dry milk prices; as recently as the spring of 1987, dry buttermilk sold for only three-fourths of the nonfat dry milk price. The effects on prices of whey protein concentrate were even larger, and mid-1988 prices were up one-third from a year earlier.

Casein prices were raised directly by international nonfat dry milk prices; suppliers to the international market shift skim milk into either casein or nonfat dry milk production until returns are equal.

Since mid-1988, casein or casein-whey mixtures have been slightly more expensive than domestic skim solids. Some shifting from casein to skim solids probably has occurred. Higher casein prices likely have also squeezed makers of cheese analogs, which are produced from casein.

Prospects for additional exports of nonfat dry milk are uncertain. Further international price strength is possible as production declines seasonally in the Northern Hemisphere. Additional export supplies would have to be bid away from domestic users in exporting countries.

Importers may start to resist higher prices, though. Less developed countries are the major importers of nonfat dry milk. Although milk plays an important nutritional role there (particularly for children), financial resources are limited in many of these countries.

The United States is not in a position to export milk products easily. Decades of isolation from the international market have left an industry oriented to domestic users and the Government. Assembling large quantities for export might be difficult and costly, particularly since much of the easily exported surplus from the West is already committed for export.

Even so, increases in international prices would result in additional U.S. exports and in domestic price increases for nonfat dry milk and substitutes. *[James Miller (202) 786-1770]*

How Does Drought Affect Seasonal Corn Price Patterns?

The change in the price of a commodity over time may include a long-term trend, a cyclical swing requiring several years to complete, a seasonal pattern within the crop marketing year, and a random movement. Drought shifts the seasonal pattern.

A drought affects the price not only during the marketing year of the drought-reduced crop (1988/89) but also during the prior or old-crop year (1987/88), because drought during the growing season causes prices to increase before harvest.

So, the seasonal price movement for both drought and predrought years differs from that in years unaffected by drought. (The harvest season for corn is September through November. Thus, the 1988/89 marketing year extends from September 1, 1988, through August 31, 1989).

Season-Average Price Above Loan Rate

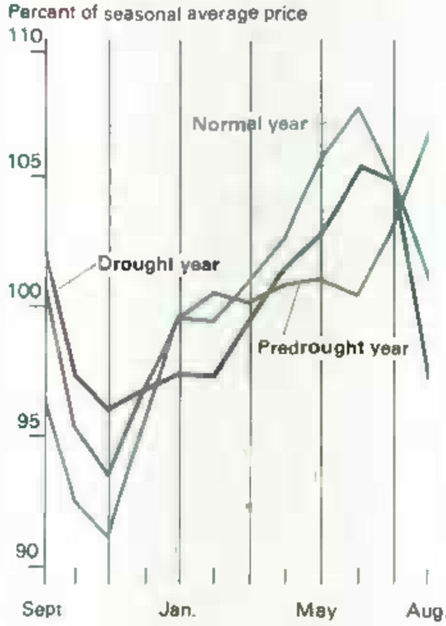
An indicator of the market year average price for corn is the ratio of ending stocks to use. Higher prices tend to be associated with lower stocks or higher use. When stocks are large relative to use, marketings drive prices down toward the loan rate, which acts as a floor because farmers can store their corn and keep it off the market.

Projected Monthly Corn Prices in 1988/89

	Farm prices*	Differential for St. Louis	St. Louis cash prices
		$/bushel	
Sept.	2.56	0.23	2.79
Oct.	2.44	0.28	2.72
Nov.	2.40	0.32	2.72
Dec.	2.43	0.29	2.72
Jan.	2.44	0.28	2.72
Feb.	2.44	0.20	2.64
March	2.49	0.21	2.70
Apr.	2.54	0.22	2.76
May	2.58	0.17	2.75
June	2.64	0.16	2.80
July	2.62	0.14	2.76
Aug.	2.44	0.13	2.57

*Based on a projected $2.50-per-bushel farm price in 1988/89 and using the typical monthly pattern for a drought year.

Drought Shifts Seasonal Corn Prices



In 1985 and 1986, prices averaged well below the loan rate because of a large volume of generic certificates and the opportunity to sell corn using the "PIK-and-roll" procedure. On the other hand, when supply is limited relative to demand, as it is this year, buyers bid prices well above the loan rate.

For 1988/89, the disappearance of corn is estimated at 7.3 billion bushels, and ending stocks at 1.6 billion. Thus, the expected ending stocks-to-use ratio is 21.9 percent. Using the historical price relationship, the season-average price given a ratio of 21.9 percent would be about 72 cents above the loan rate of $1.77, or about $2.50.

Seasonal Patterns Differ

Seasonal corn price patterns since 1970 were examined for drought, predrought, and normal years.

In normal years, prices tend to increase through June and then drop. This reflects heavy marketings during harvest, accumulating storage costs during the year, and farmers' anticipation of a good upcoming harvest and their need to sell old-crop corn to free storage for the new crop.

During the marketing year for the drought-reduced crop, the price approximates the pattern of normal years except that it begins the year stronger and ends weaker; the rise from seasonal low in November to high in June is less pronounced, and the decline during August is greater.

Prices appear to be less volatile during the marketing year for the drought-reduced crop than the other years. The drought years used were 1970/71, 1980/81, and 1983/84. In these years, yield was reduced by more than 10 percent from the historic trend (this year's corn crop is down 37 percent).

The drought of 1974 was excluded; that drought boosted prices, but the effect of price controls on livestock feeders' demand for corn caused corn prices to behave much differently than in the other drought years.

The seasonal price pattern for the first half of a year before a drought also follows the pattern for normal years. However, the uncertainty posed by the

drought boosts prices in July and August as farmers tend to hold old-crop corn. The predrought seasonal price patterns examined were from crop years 1969/70, 1979/80, and 1982/83.

Based on a market year average price of $2.50, monthly prices in 1988/89 can be expected to start in September a little above the likely season average, fall to the mid-$2.40's this winter, rise to the mid-$2.60's by June, and then fall if a normal harvest is anticipated next September.

Season averages were also computed for the cash corn price in St. Louis. The historical spread between St. Louis cash prices and farm prices can be used to estimate farm prices from observed St. Louis prices.

In predrought and drought years, the price spread was wider than usual in the months of rising corn prices and narrower in months of price declines. This suggests a constant percentage markup. The average spread was different in different types of years. The monthly patterns in all three types of years tended to be the same for both the St. Louis price and the price received by farmers. *[Allen Baker and Keith Menzie (202) 786-1840]*

1980's Bring New Setting For Dry Bean Producers

Markets for dry beans are dramatically different now than they were in the early 1980's, when bean exports were booming and prices were high. Because of relatively low U.S. demand and high bean consumption in other countries, the export market is a major focus of U.S. dry bean producers. However, volatile dry bean exports since 1980 have influenced U.S. dry bean prices and production.

In the U.S., an average of only 6 or 7 pounds of pinto, navy, and other dry beans are eaten each year, and most consumers do not consider beans either a delicacy or an everyday meal. New York's and San Francisco's Chinatowns are among the few places in this country where sweet bean paste and other bean delicacies are consumed.

In contrast with the United States, annual bean consumption in the UK is over 17 pounds per person and baked beans are served at least once a week in 93 percent of UK households. Bean consumption in Mexico, primarily pinto and other colored beans, may be as much as 40 pounds per person annually.

Greater Competition From Asia

In 1980, the United States was the largest dry bean exporter in the world. India, Brazil, and Mexico produced more dry beans than the United States, but their domestic consumption was high.

However, Asia has stepped up exports dramatically during the 1980's, surpassing the United States in 1983. In 1980, the United States exported 579,254 metric tons of dry beans and Asia exported 319,879 tons. By 1986, Asia exported 903,032 tons, while the United States exported only 400,708.

The biggest customer for U.S. bean exports in 1980 was Mexico. Rising Mexican income from the booming oil industry boosted demand in the early 1980's. When Mexican bean production fell because of a drought, U.S. pinto exports to Mexico skyrocketed to 8.4 million cwt in 1981.

By 1982, though, Mexico's oil industry was waning, bean stocks had been rebuilt, and a self-sufficiency program for dry beans was in effect. U.S. pinto exports fell to 2 million cwt in 1982 and to 349,000 in 1983. Even so, Mexico is still a major dry bean importer.

U.S. pinto exports to Mexico had climbed back to 2.5 million cwt by 1986. The dramatic fluctuation in pinto exports is the primary reason for the large variability in total U.S. dry bean exports since 1980. Navy, great northern, and kidney beans varied by less than 1 million cwt, while pintos fluctuated by as much as 8 million cwt from one year to the next.

The largest importer of U.S. beans by 1987 was the UK, taking primarily navy beans. UK imports increased from 47,042 metric tons in 1980 to 72,821 in 1987. Mexico was the second largest customer in 1987, importing 31,376 metric tons. Japan was the third largest, taking 23,225 metric tons, primarily red beans.

One reason for the increasing U.S. sales to the UK is that consumers there increased their bean consumption during the 1980's. A popular diet book is credited with effecting the increase by recommending beans as a chewy, high-fiber food which can stop hunger pangs and help dieters lose weight.

Promotions Stepped Up In UK

Increased U.S. exports to the UK may also have resulted from stepped-up U.S. promotional efforts. The Foreign Agriculture Service funded $300,000 through the Targeted Export Enhancement (TEA) program for dry bean advertisements in the UK from October 1987 through September 1988.

Promotional plans of the U.S. dry bean industry are focusing on branded advertising in the UK. Also, the Nebraska Dry Bean Council, the Michigan Bean Shippers Association, and other sections of the industry are petitioning USDA for $4.3 million in TEA funds for worldwide promotion, depending on the outcome of the UK pilot program.

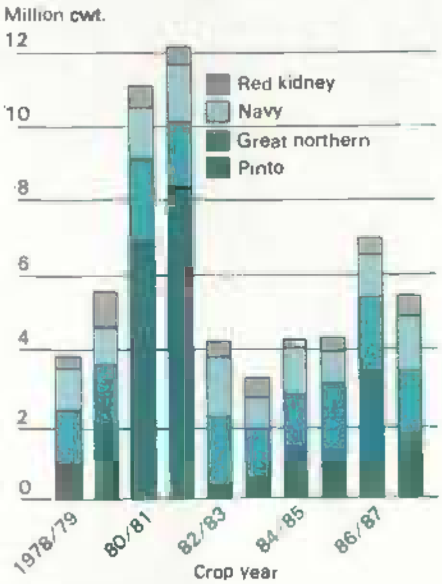
U.S. dry bean production has fallen since the soaring levels of the early 1980's, when prices jumped along with exports. When the export market fell in 1982 and 1983, production also shrank.

U.S. dry bean production was 32.8 million cwt in 1981 and fell to 15.5 million cwt by 1983, when Mexico quit importing vast quantities of pintos and the more expensive dollar made imports of U.S. products less attractive.

Bean prices had fallen to a 5-year low in 1987. By then, exports were recovering because of increased demand from the UK and other industrialized countries, as well as from developing countries where incomes have risen and beans are a major part of the diet.

Dry bean production has increased in the last 3 years, from 22.2 million cwt in 1985 to 22.9 million in 1986 and 26.3 million in 1987. However, output is expected to fall in some major bean-producing States in 1988 because of the drought. Production in Michigan, Idaho, and North Dakota is expected to fall below the previous 3 year-average, but

U.S. Dry Bean Exports Volatile in the 1980's



1987/88 forecast.

the California crop likely will remain unchanged. Output increases are anticipated in Colorado and Nebraska.

North Dakota, where few bean acres are irrigated, will probably suffer the most damage from the drought, with a 50-percent decline in yield from the previous year. With acreage reduced, the North Dakota crop will see a total 53-percent drop.

California, where most bean acreage is irrigated, increased area slightly when the threat of a drought in the Midwest materialized. This brought area in California up to a level 5 percent below last year. With an expected 5 percent increase in yield, the drought-induced area increase will bring California's production up nearly to last year's.

Michigan was the leading bean producer throughout the 1970's and the early 1980's. But the economic value of production is increasing faster in other States. In 1984, California became the top State in value of production and it held that spot again in 1986 and 1987. Michigan had the highest value in 1985, and likely will not be the top producer in 1988 because of the drought.

Growers Diversifying

Michigan specializes in navy beans, California in blackeyed peas and lima beans, and North Dakota in pinto beans, and the relative profitability of these beans has shifted among these regions since the early 1980's.

While most States specialize in a particular bean, small amounts of a broader range of beans are now being grown in many States. In 1980, for example, only 7 States grew kidney, small white, or garbanzo beans, but by 1987, 16 States grew at least one of these. Growers have been diversifying their bean mix to hedge against the uncertain market.

Broadened export demand for dry beans has improved prospects for U.S. producers in the late 1980's. However, they face increased competition from relatively new exporters as well as from traditional competitors.

Canada has traditionally competed with the U.S. for the UK navy bean market, with each country providing about half of the UK's import needs. U.S. producers are concerned that the Canadian Tri-Partite subsidy program, which was expanded last year to include dry beans, may hurt U.S. exports to the UK.

Americans have become more health-conscious in recent years, consuming more fresh fruit and vegetables and fewer products with cholesterol. The U.S. dry bean industry is advertising health benefits from consuming beans. Domestic demand for dry beans, which has been relatively stable for 15 years, could increase in the late 1980's.
[Catherine Greene (202) 786-1884]

World Agriculture and Trade

EXCHANGE RATE VOLATILITY & AG TRADE

The exchange rate is an important determinant of a country's balance of trade. For foreign customers, an expensive U.S. dollar raises the cost and reduces the volume of their U.S. purchases. At the same time, the less expensive foreign currency translates into cheaper foreign goods for U.S. consumers, raising the U.S. demand for imports.

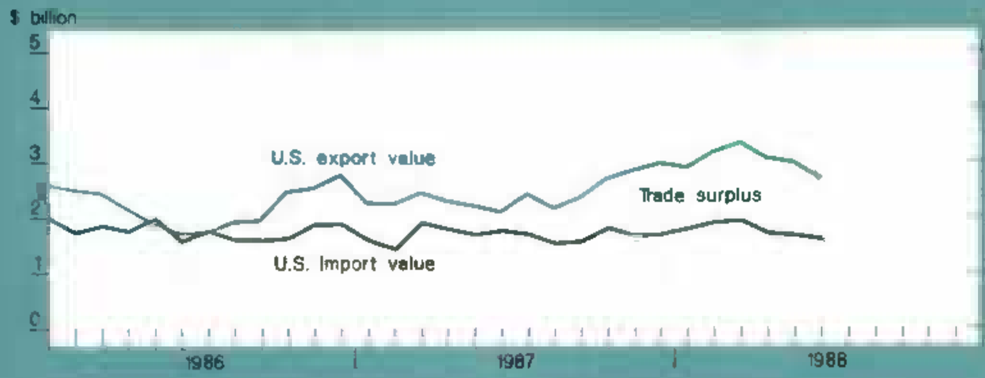
Although it is well known that a high dollar shrinks foreign demand for U.S. goods, what is less well understood is how exchange rate volatility affects demand. The flexible exchange rate system, adopted in the early 1970's, has been accompanied by wide fluctuations in exchange rates and in trade.

Volatility can be defined in a number of ways. A simple measure, the one used here, is an average of the percentage changes in the dollar's value, regardless of whether they are positive or negative. This measure indicates how much the exchange rate tends to change from one period to the next.

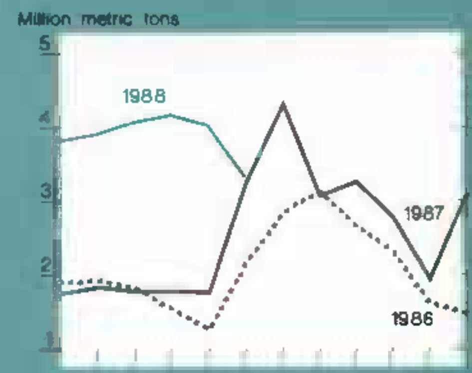
The standard deviation, a measure commonly used in statistics, gauges deviations from the average value. A third, less-used measure of volatility examines how much an exchange rate varies from some equilibrium value, but often there are difficulties in defining that equilibrium.

U.S. Agricultural Trade Indicators

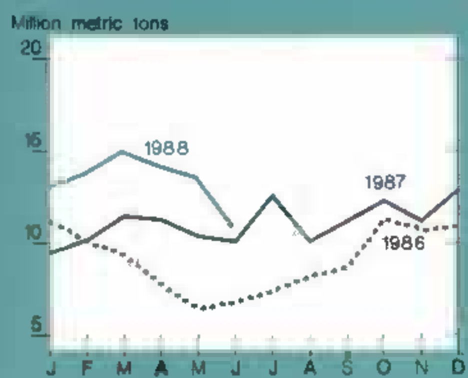
U.S. agricultural trade balance



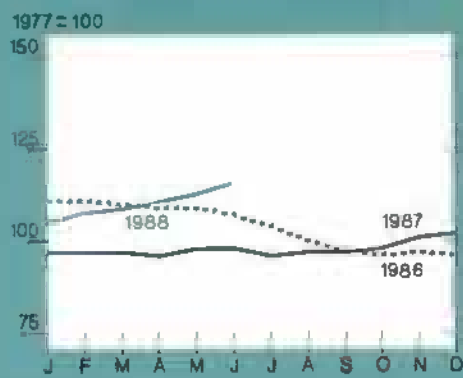
U.S. wheat exports



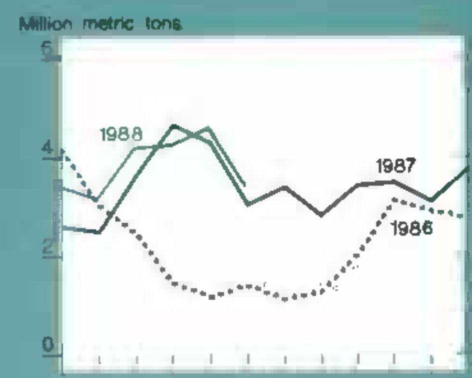
Export volume



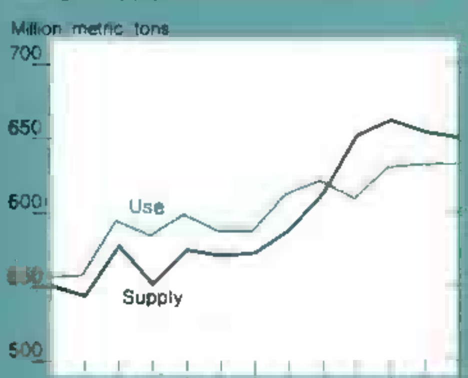
Index of export prices



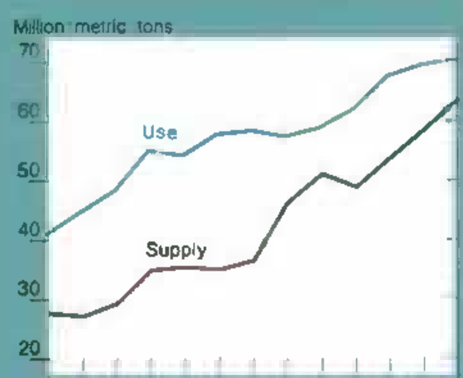
U.S. corn exports



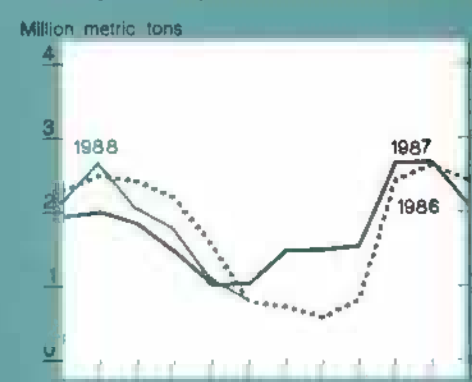
Foreign supply & use of coarse grains



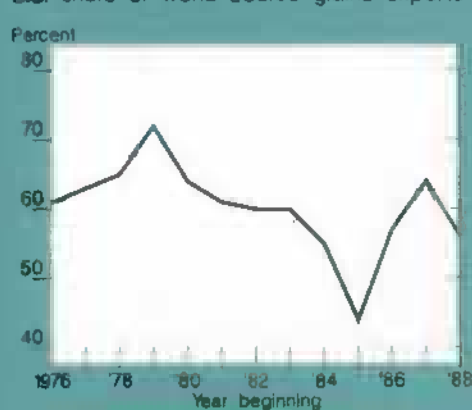
Foreign supply & use of soybeans



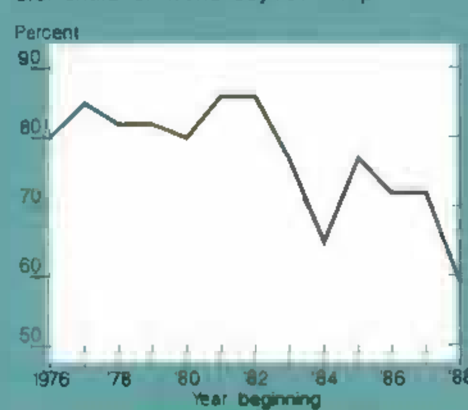
U.S. soybean exports



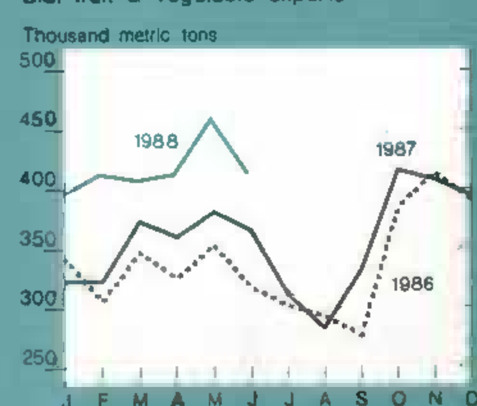
U.S. share of world coarse grains exports[1,2]



U.S. share of world soybean exports



U.S. fruit & vegetable exports[3]



[1]Excluding intra-EC trade [2]October-September years [3]Includes fruit juices

The exchange rate—the price of dollars in other currencies—can be compared with other prices. The accompanying table shows, for five industrial counties, average quarterly percentage changes in nominal exchange rates, the consumer price index, and the industrial price index. Three different time periods are compared: the full period during which exchange rates have floated (1974-87); the first half of this period (1974-80); and the second half (1981-87).

Exchange Rates More Volatile Than Prices

For the full period of floating exchange rates, the rates have been more volatile than either the industrial or the consumer price index for all countries except Canada. Price index volatility generally decreased from the early period to the later one. Exchange rates, however, were more volatile in the later period in almost all cases.

For example, the price of the French franc in U.S. dollars fluctuated plus or minus 2.72 percent on average from one quarter to the next during the early period. By the later period, the fluctuations doubled to 5.42 percent per quarter. Exchange rate variability has not declined over time, as was predicted by advocates of the floating exchange rate system.

Volatile exchange rates can reduce trade. Importers of U.S. products are often required to pay in U.S. dollars. Because the exchange rate may change between the time orders are placed and the time payment is due, importers are uncertain of the actual cost (in their own currency). This uncertainty may reduce the amount ordered. Persistent volatility in the exchange rate may induce importers to seek new sources of supply, or to intensify domestic production.

The degree to which exchange rate volatility affects the demand for U.S. commodities depends on the amount of uncertainty importers are willing to withstand, their ability to substitute domestic for imported commodities, their access to other foreign suppliers, and their access to and knowledge of foreign currency markets.

Sectors of an economy that are dependent on international trade are more susceptible to exchange rate volatility than other sectors. Agriculture, a trade-dependent sector for many countries, may be particularly vulnerable. Economists have shown that exchange rate volatility has had a small but harmful effect on manufactured goods trade. Agricultural trade has also been shown to be sensitive to volatility according to studies by the Federal Reserve Bank of Kansas City and others.

Average Quarterly Changes in Exchange Rate, Industrial Price Index, and Consumer Price Index*

	France	Spain	Japan	Canada	West Germany
			Percent		
Exchange rate					
1974-87	4.10	4.06	4.33	1.34	4.30
1974-80	2.72	3.13	3.83	1.53	3.26
1981-87	5.42	4.96	4.81	1.16	5.17
Industrial price index					
1974-87	2.44	2.87	1.40	1.82	1.00
1974-80	2.34	3.62	1.78	2.60	1.12
1981-87	2.41	2.14	1.03	1.07	.90
Consumer price index					
1974-87	2.19	3.30	1.27	1.88	.91
1974-80	2.65	4.16	1.94	2.28	1.09
1981-87	1.74	2.47	.62	1.50	.74

*Average of percentage changes regardless of whether they are positive or negative.

Source: International Monetary Fund, "Financial Statistics."

Effects on Soybean Exports Examined

The effect of exchange rate volatility on soybean trade was examined for three major importers of U.S. soybeans: Japan, France, and Spain. Results showed that volatility reduced the demand for U.S. soybeans slightly during 1974-85.

French and Spanish soybean imports are more susceptible to exchange rate volatility than Japanese. Perhaps Japanese importers are more adept at using forward currency markets. The Japanese rely almost exclusively on the United States for soybeans. They may react to exchange rate variability by reducing profit margins in the short term rather than by reducing imports.

Both Spain and France, results showed, are more apt to shift orders for soybeans to South America or substitute soybean meal for soybean imports. During the more volatile second half of the floating rate period, imports were found to be just as sensitive to exchange rate volatility as during the first half, indicating that importers had not become accustomed to floating exchange rates.

Reducing Volatility Is Difficult

It is difficult to prescribe macroeconomic policies to reduce variation in exchange rates, particularly in view of the uncertainty surrounding the causes of exchange rate movements. Managing the exchange rate to ensure stability can be difficult because the effects of exchange rate variation differ among sectors of the economy.

Policies which stabilize exchange rates provide benefits such as reducing short- and long-term trade effects, as well as diminishing economic distortions created by abrupt movements in capital flows. On the other hand, to stabilize its exchange rate a country often must subordinate domestic goals, such as those related to inflation.

For an importer, using forward markets for foreign currency can reduce the effects of exchange rate volatility. Importers anticipating a need for dollars can contract today to buy dollars in the future at a guaranteed price, the forward exchange rate.

But there are risks and constraints associated with forward markets. The main risk derives from the fact that the forward market does not always accurately predict exchange rates. If the forward rate is higher than the future spot rate, importers who bought dollars in the forward market will suffer a loss.

The cost of using the forward market increases as exchange rate volatility increases. Thus, the greater the need to avoid exchange rate changes, the larger the risk to the forward-market user.

Forward markets may not offer convenient contract lengths for many importers. Lengths are typically less than a year, while some commodity agreements are longer than that. Moreover, to predict foreign currency needs, an importer must accurately predict import needs, often difficult to do.

Finally, not all currencies are actively traded in a forward market. Countries with less popular currencies may pay higher prices for U.S. dollars than other countries.

Developing countries are becoming increasingly reliant on U.S. exports. Exchange rates of developing countries whose currencies are not pegged to the dollar often exhibit large variations, and forward markets may be less available to these importers. Inter-EC trade, on the other hand, occurs under a more stable exchange rate system, with actively traded currencies.

Reducing the effects of exchange rate volatility for the countries and sectors most affected may be more appropriate than seeking to stabilize exchange rates. There are several ways to do this:

- Foreign customers not accustomed to using forward markets could be introduced to these markets.

- Exports could be priced in third currencies that are readily available to both buyer and seller if one nation's currency is not actively traded in established markets.

- Export firms in the United States may invoice goods in foreign currency, thereby assuming some of the currency risk borne by importers.

- Exporters could guarantee an exchange rate for the date payment is due.

[Margot Anderson (202) 786-1401]

OUTLOOK FOR FOOD AID TO NEEDIEST NATIONS

While short supplies of coffee, oranges, or even vegetables bring cries of anguish from food shoppers in developed countries, it is short supplies of cereals that bring real anguish to large populations in less developed countries.

Fortunately, with a few exceptions, crop prospects in developing countries look good this season, and food supplies are up relative to current consumption. However, greater assistance is needed this year to rebuild stocks that were drawn down heavily last year. Higher commodity prices this year have driven up the cost of food imports in developing countries and donors' dollars buy less food aid.

World Cereal Availability Continues Decline

Cereals make up 75 percent of the diet in Asia and 50-70 percent in Africa. Twelve percent of the world's population lives in these countries and 25 percent of the world's cereals are produced there. But much of the cereal that enters world trade is grown in North America—a region with reduced supplies this year.

World food production dropped in 1987/88 from the 1986/87 peak. Another decline is taking place in 1988/89, the second year in a row that world consumption exceeds production. World cereal stocks at the end of 1988/89 are expected to be 38 percent below the record of 2 years earlier.

A delayed monsoon in South and Southeast Asia supplied inadequate rainfall and contributed to the substantial decline in world cereals last year. The world produced 1,603 million tons of cereals in 1987/88, a 5-percent decrease from the previous year. Area harvested fell to its lowest since 1972/73.

In the United States, acreage reduction programs continued to cut the area planted to major crops. Lower world prices discouraged cereal planting in Australia and Canada, resulting in smaller 1987/88 harvests. Production also decreased in Eastern Europe, Sub-Saharan Africa, and the Middle East, primarily because of unfavorable weather.

While world cereal production fell last year, supplies declined only 2.5 percent from the 1986/87 high because of record 458-million-ton carryin stocks. World supply exceeded consumption by the third highest amount ever.

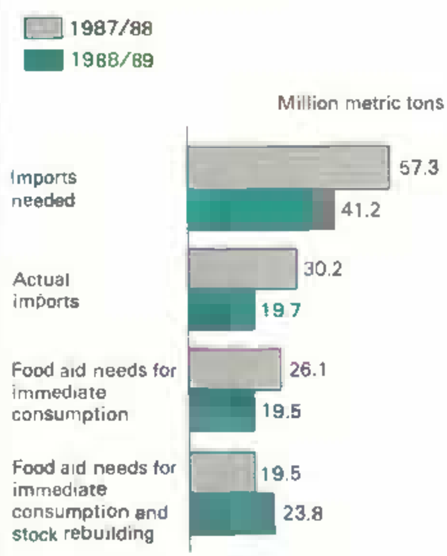
This supply, together with intense competition among exporting countries, kept prices low on world markets for wheat and coarse grains during the early months of 1987/88. However, consumption of cereals exceeded production for the first time in 4 years, prompting a 12-percent decline in world ending stocks. Prices began to rise late in the year because of reduced stocks and concern about the North American crops.

Cereal Consumption Will Far Outstrip Crops in 1988/89

Drought has cut cereal production in the U.S. and Canada in 1988/89. However, production elsewhere in the world will increase despite some weather problems in other countries. Production is returning to normal in the areas of Asia hit by drought last year. In much of Africa, crops will improve.

World cereal production will fall to an estimated 1,537 million tons in 1988/89. Because grain consumption likely will remain high at a forecast 1,655 million tons, ending stocks will be drawn down

Food Shortfalls in Neediest Countries* Widened by Low Stocks



*55 developing countries.

to their lowest since 1980/81. Estimates for this season show the lowest ratio of world cereal ending stocks to use since 1974/75.

In the United States, ending stocks of cereals are forecast to drop more than 60 percent from the record of 2 years earlier. Foreign ending stocks will decrease about 18 percent. The 209 million tons of foreign stocks expected at the end of 1988/89 will be 9 percent below the previous 10-year average.

Tighter world supplies of wheat and coarse grains in 1988/89 are likely to prove temporary. Normal weather and increased area likely will put production above consumption in 1989/90. However, this will not solve current problems.

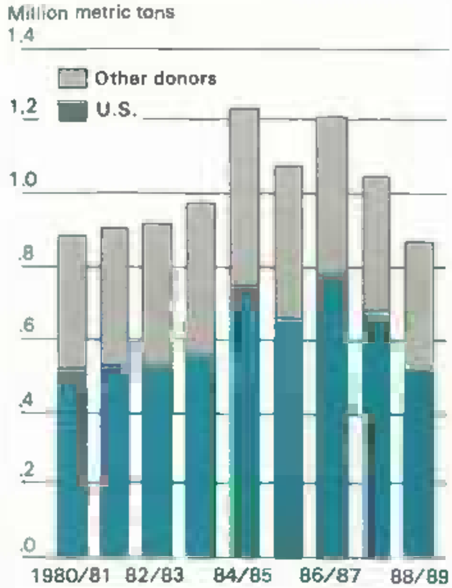
Hard To Hold the Line On Food Consumption

Cereal crop prospects are good in most of 55 countries monitored by USDA for signs of food shortfalls.* But several factors have caused sustained high food needs in 1988/89. Drought-induced production shortfalls again afflict some countries, although generally less severely than last year. Since this analysis was completed, floods in Bangladesh have added to that shortfall.

Improved production has reduced import requirements by 18 million tons. But, higher international grain prices have reduced developing countries' ability to import food commercially.

Newly available information on the food aid share of some countries' food imports indicates greater dependence on aid than previously thought. And some countries have allocated less foreign exchange to food imports than was previously thought. Because prices are up, the estimated amount of commercial imports will be only 6.5 million tons, compared with 11.7 million in 1987/88.

Rising Prices Limit Volume of U.S. Food Aid*



*To 55 developing countries.

One measure of a country's food status is how far it falls short of recent levels of per capita consumption, ignoring nutritional requirements and the prospects for depleting or rebuilding stocks. The total shortfall of needed cereal for 1988/89 is estimated at 19.5 million tons, 6.5 million less than 1987/88's need of 26 million.

The shortfall from historical consumption in Sub-Saharan Africa is placed at 4.5 million tons, 2.13 million less than in 1987/88. The shortfall in North Africa is sharply up, though, from 2.6 million tons last season to 5.3 million. The main causes are drought in Tunisia and a combination of crop declines and financial setbacks in Egypt.

Latin American cereals will fall about 2.1 million tons below historical consumption, 1.6 million tons worse than the year before. The increased measure is partly a consequence of upwardly revised estimates of historical concessional food imports, against which this year's needs are appraised. Less foreign exchange will be allocated to cereal imports and, with higher prices, less tonnage will be obtained for the money allocated.

Indian agricultural production is expected to rebound strongly in 1988/89 from last year's drought-reduced level. This is the principal factor in the rise in Asian cereal production, forecast at 237 million tons, up from 217 million in 1987/88. In Asia, cereal shortfalls are sharply down, from 16.8 million tons last year to 8.2 million.

When food needs are calculated on the basis of the United Nations' specifications of minimum caloric requirements, rather than recent historical availabilities, the 55 nations' cereal shortfall is even larger. The countries are estimated to be short 37.5 million tons of cereals to meet minimum nutritional standards in 1988/89, 2.7 million below 1987/88 needs.

Going into 1988/89, cereal stocks in developing countries are relatively low, increasing the risks associated with future shortfalls. Food stocks were drawn down sharply in 1987/88 and need rebuilding.

If stock adjustments are counted, they add 4.3 million tons to the cereal shortfalls for 1988/89, increasing the importance of food assistance. Needs in Sub-Saharan Africa are up another 400,000 tons with stock adjustments. Stock-adjusted needs in Asia are down 600,000 tons from 1987/88, though.

Food Aid Down This Year and Next

The United Nations Food and Agriculture Organization estimates that food aid in the form of cereal shipments for July 1987-June 1988 was about 10.5 million tons, down from 1986/87's 12.2 million tons. Of the 1987/88 total, the United States provided 65 percent, followed distantly by the EC with 15 percent, Canada with 10, and Japan and Australia with about 3 each.

For the fourth consecutive year, the 1974 World Food Conference goal of 10 million tons of food aid was exceeded in 1987/88. However, given no significant increases in the major donors' 1988/89 food aid budgets, and higher commodity prices, the volume of food aid may fall in 1988/89 and achievement of the 10-million-ton goal is doubtful.

The U.S. P.L. 480 program for fiscal 1988 (October 1987-September 1988)

* In North Africa, Egypt, Morocco, Tunisia; in West Africa, Benin, Burkina, Cape Verde, Chad, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Senegal, Sierra Leone, Togo; in East Africa, Burundi, Central African Republic, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Tanzania, Uganda, Zaire; in Southern Africa, Angola, Lesotho, Madagascar, Malawi, Mozambique, Swaziland, Zambia, Zimbabwe; in South Asia, Afghanistan, Bangladesh, India, Nepal, Pakistan, Sri Lanka; in Southeast Asia, Indonesia, Philippines, Vietnam; in the Caribbean, Dominican Republic, Haiti, Jamaica; in Central America, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua; in South America, Bolivia, Peru.

reflected an increase of close to 5 percent from fiscal 1987, to nearly $1.5 billion. About two-thirds of the volume was wheat and wheat products, while feed grains and vegetable oils made up about 5 percent each. Rice, dairy products, pulses, and other products comprised the remainder.

Africa accounted for nearly half the U.S. regional allocations, while Asia accounted for about one-third; about one-fifth were to Latin America. A significant proportion of U.S. food aid is from surplus Commodity Credit Corporation stocks.

The dollar amount of the fiscal 1989 P.L. 480 program has yet to be decided. The Administration has requested about $1.4 billion. If approved by Congress, this would amount to a 5-percent decrease. However, since prices are higher than last year, the fall in volume may be greater. *[Ray Nightingale (202) 786-1680]*

TRADE-WEIGHTED VALUE OF THE DOLLAR

The value of the U.S. dollar influences U.S. agricultural exports. When the dollar becomes more expensive, importers pay more in their currency to buy the same goods as before—and U.S. buyers can pay less to get the same foreign goods as before. So, exports fall and imports rise.

Many other factors, of course, also influence the ability of U.S. exporters to sell farm products abroad, including trade restrictions and subsidies. The world recession of the early 1980's and the accompanying international debt crisis hindered potential customers' ability to buy U.S. goods.

However, these other factors themselves partly resulted from movements in the value of the dollar. As the dollar falls, competitors' trade subsidies rise to offset the increased incentive to purchase U.S. agricultural products. A rise in the value of the dollar may slow the growth in a foreign country's income by raising the price of crucial imports that are priced in U.S. currency, such as petroleum.

If the dollar rises against one country and falls against another, is it rising or falling? A useful exchange rate indicator tells what the overall value of the dollar is in terms of multiple currencies. One such indicator is a weighted-average index, with the weighting reflecting shares of U.S. agricultural shipments to various countries.

Table 28 of *Agricultural Outlook* carries such a trade-weighted exchange rate index. This month, the table is substantially revised.*

Index Weighted by U.S. Agricultural Trade

The Japanese yen and German mark may be used to show how a trade-weighted exchange rate index is constructed. Their 1980 annual averages per $1.00 (226.74 yen and 1.8177 marks) will serve as a base period. Next, weights (which sum to one) are assigned to each currency.

In practice, the weights depend on how much agricultural trade occurred with Japan and Germany in the base period. For purposes of illustration, assume 20 percent of all trade is with Japan and 80 percent with Germany. Then the weight for the yen is 0.2 and for the mark 0.8.

Further assume the current value of the dollar is 1.9 marks and 130 yen. This implies that the dollar lost 42.7 percent against the yen and gained 4.53 percent against the mark since the base period of 1980.

Multiplying the individual weights for each currency by the percentage changes since 1980 and then summing these gives the weighted-average percent change: $(-42.7 * 0.2) + (4.53 * 0.8) = -4.91$. Subtracting from the base of 100 gives the index: 95.1. An index below 100 means that the dollar depreciated relative to the base period; in this case, the dollar declined against the two countries by 4.91 percent.

That the weighting scheme makes a large difference can be seen by reversing the weights in the example. Assigning .8 to the Japanese yen and .2 to the German mark and then performing the same calculation results in an index of 67.8, a one-third depreciation for the dollar from the base period.

*An electronic database on exchange rates and exchange rate indexes is available and includes an annual series from 1960, a quarterly series from 1970, and a monthly series from 1975. The database, in LOTUS 1-2-3 v. 2.01 spreadsheets, is for sale from ERS. To order, write ERS DATA, Room 228, 1301 New York Ave., N.W., Washington, D.C. 20005-4788. Specify "Exchange Rates" and include a check or money order payable to "ERS/DATA" for $40.

A trader who deals mostly with West Germany and only marginally with Japan would find the heavier weight given to Germany, and the resulting index value of 95.1, more useful. One operating in the Japanese market would view the version of the index weighted heavily toward Japan—showing a decline to 67.8 percent of the dollar's base period value—as more illuminating.

Inflation Also Affects Trade

The response to exchange rate changes is affected by rates of inflation in the trading countries. The U.S. dollar has fallen almost 43 percent against the Japanese yen since 1980. If prices in both countries had remained constant during that time, then the prices in yen that a Japanese importer paid for U.S. goods would have been 43 percent less.

However, a rise in U.S. prices relative to Japanese prices lessens the advantage accorded a U.S. seller. Exchange rates can be adjusted according to relative rates of inflation.

Mexico provides an example of inflation's impact. The U.S. dollar bought 22.95 Mexican pesos in 1980. However, by the end of 1987, one U.S. dollar bought 2,210 pesos, an "appreciation" of 9,600 percent. Ignoring inflation would imply that importers in Mexico paid almost 100 times as much for U.S. goods and services in 1987 as in 1980.

However, when the relative rates of inflation in the two countries are accounted for, the dollar appreciated in real terms against the peso by about 73.5 percent between 1980 and 1987.

Exchange rates are also affected by changes in prices, interest rates, trade flows, and money flows. An expansionary monetary policy, for example, may depreciate a country's currency. Countries which administer fixed exchange rate regimes, such as Hong Kong, will see the result of a monetary expansion as a worsening current account balance. A worsening balance of payments is, in the case of Hong Kong, equivalent to a currency depreciation.

Customer Weights Used in the Weighted-Average Value of the U.S. Dollar

Country	All products	Wheat	Soybeans	Corn	Cotton	Federal Reserve
			Shares			
Canada	0.062	0.	0.013	0.010	0.042	0.091
Japan	0.209	0.145	0.246	0.382	0.285	0.136
Belgium	0.022	0.003	0.044	0.044	0.009	0.064
France	0.016	0.002	0.023	0.	0.020	0.131
West Germany	0.040	0.001	0.057	0.	0.036	0.208
Italy	0.025	0.022	0.033	0.006	0.045	0.090
Netherlands	0.077	0.024	0.180	0.018	0.001	0.083
Sweden	0.004	0.	0.	0.	0.	0.042
Switzerland	0.009	0.	0.014	0.	0.017	0.036
U.K.	0.025	0.002	0.021	0.017	0.013	0.119
Australia	0.004	0.	0.	0.	0.	0.
New Zealand	0.001	0.	0.	0.	0.	0.
Denmark	0.004	0.	0.	0.	0	0.
Ireland	0.004	0.	0.	0.	0.015	0.
Norway	0.003	0.	0.013	0.	0.	0.
Spain	0.035	0.001	0.086	0.070	0.019	0.
Algeria	0.007	0.031	0.	0.	0.	0.
Ghana	0.001	0.	0.	0.	0.	0.
Kenya	0.001	0.	0.	0.	0.	0.
Morocco	0.008	0.048	0.	0.	0.004	0.
Nigeria	0.011	0.065	0.	0.	0.006	0.
South Africa	0.009	0.001	0.	0.036	0.001	0.
Sudan	0.004	0.	0.	0.	0.	0.
Tunisia	0.003	0.017	0.	0.006	0.	0.
Zaire	0.001	0.	0.	0.	0.	0.
Bangladesh	0.005	0.028	0.	0.	0.015	0.
Hong Kong	0.013	0.005	0.	0.	0.025	0.
India	0.011	0.048	0.	0.	0.	0.
Indonesia	0.011	0.030	0.011	0.	0.055	0.
South Korea	0.056	0.080	0.043	0.080	0.238	0.
Malaysia	0.004	0.	0.	0.	0.	0.
Pakistan	0.009	0.	0.	0.	0.007	0.
Philippines	0.011	0.035	0.	0.	0.010	0.
Thailand	0.005	0.	0.	0.	0.034	0.
Greece	0.004	0.	0.011	0.	0.015	0.
Hungary	0.002	0.	0.	0.	0.	0.
Portugal	0.020	0.026	0.033	0.056	0.012	0.
Turkey	0.004	0.013	0.	0.	0.	0.
Egypt	0.032	0.065	0.001	0.047	0.	0.
Iraq	0.014	0.037	0.	0.	0.	0.
Israel	0.010	0.019	0.023	0.008	0.	0.
Saudi Arabia	0.014	0.009	0.	0.	0.	0.
Brazil	0.017	0.102	0.	0.008	0.002	0.
Chile	0.005	0.030	0.	0.	0.	0.
Colombia	0.008	0.025	0.	0.	0.	0.
Costa Rica	0.002	0.	0.	0.	0.	0.
Dominican Rep.	0.006	0.	0.	0.	0.	0.
Ecuador	0.004	0.	0.	0.	0.	0.
El Salvador	0.003	0.	0.	0.	0.	0.
Guatemala	0.003	0.	0.	0.	0.	0.
Haiti	0.002	0.	0.	0.	0.	0.
Honduras	0.002	0.	0.	0.	0.	0.
Mexico	0.061	0.	0.068	0.089	0.	0.
Panama	0.003	0.	0.	0.	0.	0.
Peru	0.006	0.019	0.	0.	0.	0.
Venezuela	0.024	0.036	0.	0.027	0.001	0.
Taiwan	0.046	0.029	0.079	0.096	0.072	0.

A change induced by a money market disturbance (such as a change in the growth in money) affects not only the exchange rate, but also capital markets (interest rates) and trade flows. A fixed exchange rate, therefore, places the burden of adjustment of an imbalance in one part of an economy (such as a balance-of-payments deficit) into another (rising interest rates in capital markets).

The centrally controlled exchange rate for the Soviet Union bears no resemblance to one determined in a free market such as Japan, or even to a fixed exchange rate such as that maintained by Hong Kong. For a centrally controlled rate, there is no measurable relationship between monetary policy, the balance of payments, and the exchange rate.

Furthermore, scarcity of goods is not reflected in rising prices, but in lengthening queues. Thus, the Soviet Union and other centrally planned countries are excluded from calculation of the weighted-average exchange rate.

Annual Series Starts With 1960

An accompanying table shows customer weights used in computing the agricultural trade-weighted exchange rate series, based on the dollar value of all U.S. agricultural exports, plus values of wheat, soybeans, corn, and cotton. The weights are export shares averaged over 1983-85. Using 3 years minimizes possible distortions due to unusual conditions in any one year. These weights lead to an index of the exchange rates for importers of U.S. farm products.

A second accompanying table shows weights for major competitors in wheat, corn, soybeans, and cotton. These weights represent non-U.S. shares in the total dollar value of 1983-85 world trade in each commodity. They lead to an index of the exchange rates for competitors for U.S. exports.

A third accompanying table contains the trade-weighted series from 1960 to 1987 (the most recent months are in back table 28). The agricultural trade-weighted indexes are compared with one frequently used for all U.S. trade, the Federal Reserve Index, which represents ten major currencies other than the U.S. dollar (weights for the Federal Reserve Index are in the table of customer weights).

U.S. agricultural markets saw the dollar rise less between 1980 and 1985 than did markets represented by the Federal Reserve Index. The closest was the soybean "exchange rate," whose weights are nearest those of the Federal Reserve Index. Between 1985 and 1987, the dollar fell faster as measured by the Federal Reserve than as measured by any of the agricultural indexes.

More striking differences occur when one compares the performance of the dollar in world markets with that of U.S. competitors' currencies. The dollar's rise between 1980 and 1985 was more dramatic, when compared with other agricultural exporters' currencies, and its decline was more tepid. Competing exporters therefore received an exchange rate advantage in the first half of the 1980's.

To illustrate, importers of U.S. soybeans saw the dollar appreciate by 46.6 percent against their currencies between 1980 and 1985. However, the dollar rose 122.9 percent in real terms against the currencies of major U.S. soybean competitors.

This implies that the customer's average currency value rose 52.0 percent (100 * 222.9/146.6 - 100) against the currencies of U.S. competitors. That is, assuming constant prices for both the United States and other soybean suppliers, the buyer saw U.S. soybeans costing 46 percent more than in the past, but other sources of soybeans at half the U.S. price. This undoubtedly was a strong incentive to U.S. customers to consider switching to other suppliers.

Monies of U.S. competitors, such as the Canadian dollar and the Brazilian cruzado, have not risen as much in real terms against the U.S. dollar since 1985 as have the currencies of U.S. customers, notably Japan and major European countries. The weighted-average exchange rate continues to show the United States at a significant competitive disadvantage in soybeans and corn compared with 1980. *[David Stallings (202) 786-1705]*

Competitor Weights Used in the Weighted-Average Value of the U.S. Dollar

Country	All products	Wheat	Soybeans	Corn	Cotton
			Shares		
Canada	0.101	0.401	0.	0.	0.
France	0.204	0.256	0.	0.442	0.
Australia	0.095	0.203	0.	0.	0.075
New Zealand	0.043	0.	0.	0.	0.
Sudan	0.006	0.	0.	0.	0.102
Zimbabwe	0.006	0.	0.	0.012	0.040
India	0.029	0.	0.	0.	0.037
Indonesia	0.029	0.	0.	0.	0.
Malaysia	0.051	0.	0.	0.	0.
Pakistan	0.010	0.	0.	0.	0.104
Philippines	0.017	0.	0.	0.	0.
Thailand	0.044	0.	0.	0.172	0.
Greece	0.019	0.	0.	0.	0.
Hungary	0.025	0.	0.	0.	0.
Turkey	0.029	0.	0.	0.	0.076
Egypt	0.009	0.	0.	0.	0.193
Israel	0.011	0.	0.	0.	0.057
Syria	0.004	0.	0.	0.	0.083
Argentina	0.075	0.140	0.488	0.374	0.022
Brazil	0.121	0.	0.426	0.	0.044
Colombia	0.029	0.	0.	0.	0.
El Salvador	0.006	0.	0.	0.	0.014
Guatemala	0.009	0.	0.	0.	0.027
Mexico	0.021	0.	0.	0.	0.059
Paraguay	0.004	0.	0.086	0.	0.052
Peru	0.003	0.	0.	0.	0.016

Real Weighted Exchange Rate Indexes for Agriculture, 1960-87

Year	Federal Reserve Index	All U.S. ag. prod-ucts	U.S. wheat markets	U.S. soybean markets	U.S. corn markets	U.S. cotton markets	All major competi-tors	Competi-tor wheat	Competi-tor soybeans	Competi-tor corn	Competi-tor cotton
						1980 = 100					
1960	165.5	143.6	119.0	180.3	154.8	156.0	122.2	124.2	138.1	174.3	92.2
1961	161.7	146.6	125.4	179.6	158.8	176.8	124.6	123.5	136.0	163.6	95.2
1962	158.0	147.1	131.3	176.3	156.8	174.1	128.9	126.7	148.6	164.8	101.8
1963	154.1	142.7	126.7	169.8	150.4	163.4	126.4	126.1	141.8	162.2	102.7
1964	150.5	142.3	126.7	167.1	151.6	171.2	122.5	121.7	128.9	151.0	99.7
1965	146.7	139.6	126.4	162.1	147.5	172.3	122.8	119.4	131.2	147.7	96.8
1966	145.7	134.3	116.3	155.1	144.7	147.5	113.8	118.9	123.6	146.0	95.4
1967	145.8	132.5	113.8	152.5	142.9	138.6	112.2	122.3	134.6	159.1	94.4
1968	149.5	134.4	115.7	154.2	143.6	137.7	114.8	121.8	135.0	156.4	98.3
1969	151.8	135.7	117.3	155.0	144.4	137.8	118.4	123.8	138.9	159.3	100.1
1970	151.6	136.8	119.2	155.3	144.4	138.0	122.5	126.2	137.9	165.9	103.4
1971	145.3	134.2	119.9	150.7	141.0	137.5	122.6	122.8	135.5	162.6	105.8
1972	130.9	125.2	112.8	136.6	130.1	129.9	118.6	118.3	144.6	162.2	109.5
1973	116.6	113.9	108.0	120.2	117.0	118.5	105.7	105.1	123.6	135.2	102.2
1974	116.7	107.6	101.7	112.9	108.5	109.1	100.7	102.3	111.3	127.5	92.8
1975	110.5	105.4	101.6	109.4	107.3	109.3	102.8	107.3	141.0	143.7	91.7
1976	114.7	106.1	101.2	111.9	108.2	107.7	102.8	102.9	121.1	133.4	92.4
1977	109.9	102.5	96.4	107.3	104.1	102.4	104.7	110.9	137.8	148.2	90.9
1978	99.5	95.1	91.9	97.0	93.4	93.6	100.0	105.9	120.8	128.9	90.7
1979	98.1	97.7	97.1	96.8	97.4	95.7	98.7	102.1	103.9	110.3	99.4
1980	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1981	118.9	107.4	104.4	112.6	104.7	105.8	108.2	110.1	110.6	122.7	101.1
1982	131.6	119.1	111.8	127.5	119.9	115.8	123.3	129.9	170.5	181.6	112.5
1983	138.3	123.7	118.6	134.2	122.9	120.6	133.3	131.9	188.2	185.0	114.3
1984	151.8	130.1	124.4	142.4	127.6	126.9	141.9	137.5	195.5	190.3	113.4
1985	156.1	135.2	130.0	146.6	131.3	133.0	152.1	149.8	222.9	209.6	119.3
1986	122.4	118.5	121.7	119.4	110.2	115.7	140.3	135.8	194.7	173.6	110.5
1987	107.2	110.4	121.2	106.1	99.8	107.2	131.4	126.2	193.4	163.9	102.8

Resources

FARMLAND VALUE UPDATE

A possible slowdown in the rise in U.S. farmland values is being shaped by the drought's impact on farm incomes, uncertainty about interest and inflation rates, and the performance of other investment opportunities. The increase in farmland values reported by the Economic Research Service last April—the first increase since 1982—appears to have moderated, according to quarterly surveys taken since then.

In August, an ERS survey of rural appraisers reported a 1.2-percent increase in farmland values nationwide during May-July. This is slightly lower than the 1.8-percent growth reported for the preceding 3 months. Looking ahead to August-October, the appraisers expected values to average only 0.9 percent higher.

The surveys tend to show quarter-to-quarter variability reflecting not only short-term changes in markets, but also longer term changes in expectations. The surveys are barometers of potential longer term market directions.

Only 38 percent of the appraisers in the August survey reported that farmland values rose during the preceding 3 months, compared with 51 percent in the May survey. Fifty-eight percent felt that values had remained the same, up from only 40 percent a quarter earlier.

Appraisers were more bullish, however, for the year ahead. They anticipated a 4.6-percent rise in the coming year, well above the 3.6 percent expected last May and the 2.3 percent expected in November 1987.

Most Improvement In the West

Appraisers in the 11 States of the Western region reported a 3-percent increase in land values from the first of May to the end of July, up substantially from the 0.8-percent increase during February-April.

Drought in portions of the West reduced crop yields in nonirrigated areas and worsened pasture conditions, but higher prices and disaster assistance payments may contribute to some growth in net cash income for the region. The winter wheat crop was largely unaffected by the drought, and wheat prices were higher.

Northeast values were reported up 2.6 percent during May-July, compared with a rise of 2.0 percent in the preceding 3 months. Land values in the Northeast are largely driven by purchases for nonagricultural uses.

Of the four reporting regions, the drought hit spring-planted crops hardest in the North Central region and the South. Values continued to grow in the North Central region (up 3.5 percent during May-July), but at a slower pace than in the preceding 3 months (4.7 percent). Net cash income for the North Central region may be near last year.

Values in the South declined 1.1 percent during February-April and another 3.9 percent in the following 3 months. Portions of the oil-producing States are still struggling from the 1986 crash in energy prices, which dampened the demand for land for nonagricultural uses.

Values Next Year Strongest In Northeast

Strong growth is anticipated to continue in the Northeast, 7.4 percent during the 12 months beginning August 1, compared with an expected 5.6 percent for May 1988-89.

Appraisers in the South are optimistic that land values will improve in the coming year. They expect an improvement from the 1.3-percent decrease reported for May 1988-89 to a 2.3-percent gain for August 1988-89.

Values in the West are anticipated to be 3.2 percent higher by August 1989, an increase slightly below the 3.7-percent growth that had been expected by May 1989.

Appraisers in the North Central region now expect values to grow 4.4 percent during August 1988-89. Earlier, they had anticipated May 1988-89 values to expand by 5.4 percent.

Federal Reserve Bank Surveys Also Show Slower Rise

Reports by the rural appraisers are consistent with recent surveys by several Federal Reserve banks. In the Chicago Federal Reserve Bank's survey for the second quarter, agricultural bankers reported a 1-percent appreciation in the value of "good" farmland, substantially below the 4-percent increase in the preceding quarter.

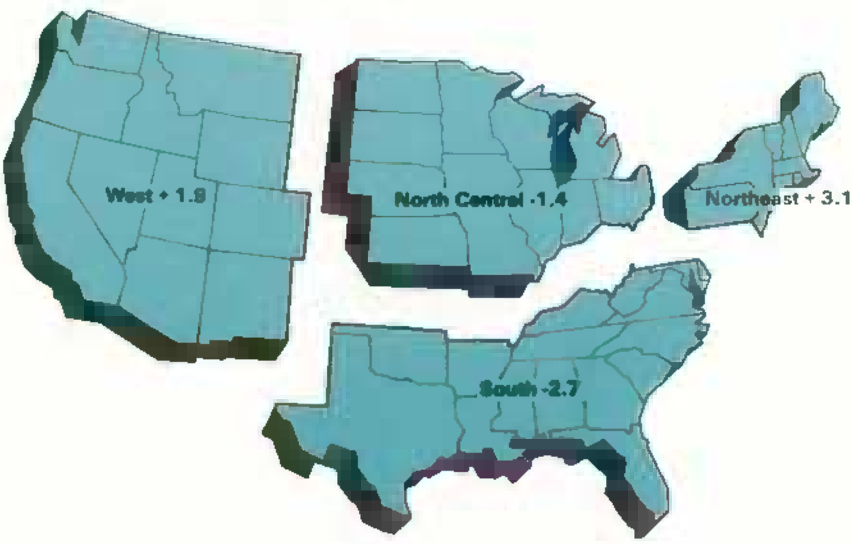
The drought was cited as a factor in the slowdown. The Chicago district includes Iowa, northern portions of Illinois and Indiana, southern Wisconsin, and Michigan (excluding the Michigan Peninsula.)

Sixty percent of the Chicago bankers in both the first- and second-quarter surveys indicated that the trend in farmland values is stable. But, in the second-quarter survey, nearly one-third thought the trend was downward, compared with only 2 percent of those surveyed in the first quarter. Just 9 percent thought the trend was upward, compared with 38 percent in the first quarter.

The Kansas City Fed bank's second-quarter survey showed higher values, but the percent increases were generally below those in the first quarter. The value of nonirrigated cropland increased 1.9 percent, down from 2.6 percent a quarter earlier. Ranchland values averaged only 1.6 percent higher, substantially less than the 5.1-percent increase in the first quarter.

Irrigated cropland values increased 2.9 percent in the second quarter, compared with 2.1 percent in the first. Kansas, Nebraska, Wyoming, Colorado, Oklahoma, northern New Mexico, and

Appraisers Think Farmland Values Are Rising in Two Regions, Falling in Two



Percent changes anticipated for Aug. 1 - Oct. 31.

Changes in Farmland Values During 1988*

Period	West	North Central	South	North-east	U.S.
	Percent change from a quarter earlier				
Feb. 1-Apr. 30	0.8	4.7	-1.1	2.0	1.8
May 1-July 31	3.0	3.5	-3.9	2.6	1.2
Aug. 1-Oct. 31	1.9	-1.4	-2.7	3.1	0.9

Expected Annual Changes in Farmland Values in Three Quarterly Surveys*

Period	West	North Central	South	North-east	U.S.
	Percent				
Nov. 1987-88	0.8	2.7	-0.6	5.5	2.3
May 1988-89	3.7	5.4	-1.3	5.6	3.6
Aug. 1988-89	3.2	4.4	2.3	7.4	4.6

*More than 500 accredited rural appraisers belonging to the American Society of Farm Managers and Rural Appraisers participated in the ERS survey.

western Missouri are in the Kansas City district.

The Federal Reserve Bank of Dallas (covering Texas, southern New Mexico, and northern Louisiana) reported higher values for both irrigated and nonirrigated cropland in the second quarter, but lower values for ranchland.

Based on a three-quarter moving average, the increase in the value of nonirrigated cropland slowed to 1.2 percent, from 1.8 percent in the preceding quarter. Irrigated values were up 1.5 percent in the first quarter, but the rise slowed to 0.8 percent in the second. Ranchland values declined 1.4 percent in the first quarter and 1.7 percent in the second.

Slowdown Expected in Corn Belt States

In the July 1 quarterly survey conducted by the University of Illinois, certified farmland appraisers in the Corn Belt States reported that values generally had risen from the preceding quarter. The changes in value of above-average-quality land ranged from a 3-percent reduction in Ohio to a 13-percent increase in Indiana. Values for below-average land increased more, with gains ranging from 4.5 percent in Ohio to nearly 15 percent in Indiana.

The Corn Belt appraisers were pessimistic about changes over the next 12 months, expecting moderate declines in most areas, but modest gains for above-average land in Indiana and Iowa. The appraisers' July 1 expectations for the year ahead are decidedly more downbeat than those reported on April 1, before the drought.

Near-Term Influences on Values Vary Among Regions

Land prices primarily reflect long-term expectations for farm income, interest rates, and other factors. But short-term events such as the drought can reduce farmers' liquidity, which in turn reduces the demand for farmland or increases supply of land on the market if farms fail.

The slowdown in the increase in farmland values likely is related to several uncertainties. While 1988 net cash income is expected to be near 1987 for the farm sector, 1988 net farm income may be down because of reduced inventories of farmer-held commodities.

Changes in cash and farm incomes are expected to vary widely among individual farmers and among localities. Producers who have normal yields or grow irrigated crops will benefit from substantially higher commodity prices in 1988. Farmland values in such areas may be up. Also, farmers with large grain stocks coming into the 1988 production year will realize gains from higher prices and could maintain liquidity despite yield losses.

Cattle prices have gone up, but so have feed costs. Thus, livestock incomes are generally lower. Crop producers realizing low yields or suffering crop failure in drought areas have little to market at higher prices. Those participating in Government programs will receive only modest deficiency payments because market prices have moved toward target prices. Also, payments will not be made until 1989. Farmland values in these areas may face downward pressure.

Some producers will get crop insurance payments. Distribution of the Federal disaster assistance payments will partly offset downward pressure on land values resulting from the drought. Terms of the commodity programs and other provisions of the 1990 farm bill are yet to be worked out.

If the inflation rate continues to edge upward, farmland values may improve. However, wariness about next year's growing conditions, farm incomes, and interest rates seems to be dampening the near-term outlook for farmland values, particularly in areas where the drought has been most severe. *[Roger Hexem (202) 786-1422]*

PESTICIDES: EFFECTS AND SIDE-EFFECTS

The dramatic increase in pesticide use from World War II through the early 1980's was a significant contributor to farm productivity. But pesticides themselves can create pest control problems and can increase risks for human health and the environment.

Pesticide use stabilized during the 1980's, principally because of market saturation for herbicides in row crops, relatively low crop prices, and acreage diversion programs.

Pesticides Boost Farm Output

Prior to the introduction of modern pesticides, pest controls had been primarily cultural and physical practices, such as crop rotation, destruction of crop residue, timing of planting dates to avoid high pest infestations, use of trap crops, pruning, defoliation, and isolation of crops from infested areas. Chemical pest controls began to replace older methods during the mid-1940's.

Pesticide use on major field crops grew from 226 million pounds of active ingredient (a.i.) in 1964 to 558 million pounds by 1982 (the latest year for which detailed USDA national survey information is available). The 1982 figure does not count pesticide use in 17 States, including California, where significant quantities of pesticides are applied to cotton and rice.

Much of the pesticide growth substituted herbicides for mechanical weed control. Herbicide use grew from 71 million pounds a.i. on major crops in 1964 to 456 million pounds in 1982.

Insecticide use on major crops increased from 117 million pounds a.i. in 1964 to 130 million in 1976, and then fell to 71 million pounds in 1982. Much of that decline was due to a shift toward pyrethroids (permethrin, fenvalerate, and others), which are applied at lower rates than older materials. The acreage treated with insecticides changed little between the two surveys. Fungicides and other pesticide products on major crops were relatively stable between 1964 and 1982.

Corn and soybeans received 74 percent of the pesticides used on major crops in 1982, up from 22 percent in 1964. Herbicide use on those two crops grew from 30 million pounds a.i. in 1964 to 370 million in 1982. At the same time, cotton insecticide use fell. Pesticide use therefore grew faster in the Corn Belt and Lake States, where corn and soybean production dominate.

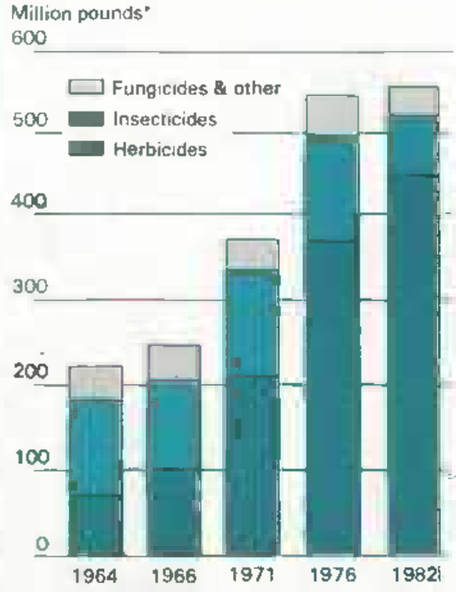
Some Pesticide Use Is Counterproductive

Overuse of pesticides can increase pest damage. For example, early-season application of some cotton insecticides can reduce natural enemies of the bollworm and tobacco budworm, causing secondary outbreaks that might require additional treatments.

In addition, destroying natural enemies may result in more pests from species that formerly had caused little damage because of low infestations. The bollworm and tobacco budworm, once considered secondary pests of cotton, were unleashed by insecticide treatments on fleahoppers and boll weevils.

Other practices, such as irrigation, fertilization, and monoculture, also may repress natural controls. Continued exposure of pests to a chemical can leave the most resistant individuals to continue the species and reduce the chemical's effectiveness.

Pesticide Use on Major Crops No Longer Increasing



*Active ingredient weight.

Counterproductive effects of pesticides led biologists to reexamine pest control methods in the late seventies. The result was integrated pest management (IPM). IPM focuses on a mix of chemical, biological, and cultural controls to manage pests, rather than relying on a single method.

IPM includes the idea that pests should be controlled only when the value of damage reduction exceeds the cost of control. The success of IPM has been mixed; the most successful adoption has come with crops such as cotton and fruit where insecticides are heavily used.

Pesticides Can Contaminate Groundwater

Since the 1960's, there has been concern that pesticide use can produce harmful side-effects such as human cancer and birth defects, and wildlife mortality.

Pesticide pollution of groundwater recently has become a major issue. Approximately 46 million people have access to groundwater potentially contaminated with pesticides. About 18 million of these people rely on private wells, which are more susceptible to contamination than deeper, regulated public wells. The problem is potentially acute in the Corn Belt, Lake States, Eastern Seaboard, and Gulf Coast.

The Environmental Protection Agency (EPA) identified many of the most effective and heavily used pesticides as having a significant tendency to leach into groundwater supplies. These include the herbicides alachlor, atrazine, cyanazine, and metolachlor.

EPA proposals emphasized State management of groundwater problems, but further evidence of contamination could cause the pesticides' registrations to be modified or cancelled. Registrations define permitted crops, livestock, methods of use, and location of use for a pesticide.

The Endangered Species Act (ESA) of 1974 protects the habitat of threatened organisms against pesticide contamination. When implementing the ESA in 1988, the EPA proposed designations of counties with eligible species to be zones free from toxic pesticides. The program, which could lead to changes in local agricultural production and marketing practices, has caused controversy in the agricultural community.

EPA designations of ESA counties are under review and likely to be modified. A revised EPA approach is not expected until 1990.

Ironically, chemical pesticides play an important role in some soil conservation practices. For instance, conservation tillage disturbs the soil surface less and leaves more plant residue on the field than traditional moldboard plowing and cultivation. It also helps reduce soil movement, increase soil moisture, and lower soil temperature.

But reduced tillage generally requires increased pesticide use because there are fewer cultivations to control weeds. Also, the crop residues may provide a habitat for other pests. However, recent surveys indicate that pesticide use on corn and soybeans grown under conservation tillage is not significantly greater than on conventional systems.

Regulation Changes Mix of Pesticides Used

Beginning in 1910, pesticide policy stressed food safety and protection of users from ineffective pesticides. In response to public concerns during the 1960's, policy sought to prevent unacceptable health and environmental risks.

The Federal Environmental Pesticide Control Act of 1972 charged EPA with re-evaluating the 35,000 then-available pesticide products against new risk standards for chemical registration. When unreasonable risks are suspected, a review can result in cancellation of registration for one or more use sites, modification of permitted application methods, requirements that applicators be certified, or other measures to reduce exposure.

Materials which exceed acceptable risks, and whose benefits do not outweigh risks, include DDT, aldrin, captafol, chloranil, chlordane, dinoseb (with allowances for some specialty crops in some situations while alternatives are developed), EDB, EPN, silvex, and 2,4,5-T. These products' registrations were cancelled. Manufacturers have voluntarily cancelled other registrations to avoid the expense of review.

Between 1981 and 1986, few special reviews of pesticides were initiated by EPA. Exceptions included aldicarb, alachlor, daminozide, and EDB. Dinoseb was subjected to emergency suspension.

Regulatory activity has recently accelerated, though, with investigations into many fungicides used extensively on fruits and vegetables. Concern has heightened about avian toxicity, groundwater contamination, and endangered species vulnerability.

Pesticide regulation is difficult because risk and benefit data are scarce. While pesticide use data are often available for major crops, USDA has not surveyed pesticide use on fruits and vegetables since 1979. Estimates of yield changes due to banning one pesticide and switching to alternatives are difficult to obtain.

The hazard and exposure data necessary for risk assessment are also scarce, but improved testing devices now detect chemicals not noticed just a few years ago.

An irony of the pesticide regulatory process is that removing one pesticide from the market may turn users to other pesticides, with perhaps higher health and environmental risks.

Regulations have not slowed the growth of pesticide use. Many regulatory actions occurred during the 1970's when pesticide use grew rapidly. However, actions have changed the mix of chemicals used by removing some of the more offensive from the market.
[Philip Szmedra and Craig Osteen (202) 786-1462]

THE URBANIZATION OF FARMLAND

Concern continues about the survival of farms in high-growth, rural-urban fringe areas and about the adequacy of cropland for future food and fiber production. However, ERS calculations based on aerial photographs show that urbanization of agricultural land is not occurring as rapidly as previously thought.

In 1970, 6.9 million acres were in three urban land use categories—residential, commercial, and mixed urban—in 135 fast-growing counties. By 1980, urban land in these counties had increased to 9.3 million acres, a gain of 2.4 million acres or 35 percent. Of the 2.4 million acres, 1.7 million formerly were agricultural land. Forestland contributed 0.8 million acres to urbanization.

However, the net decrease in farmland was barely 1 percent of the base of 126 million acres in the sampled counties. A large percentage increase in urban use resulted from a relatively small decrease in agricultural use.

Residential land is resistant to conversion to other uses. Land in residential use at the beginning of the 1960's and again in the 1970's was 99 percent residential at the end of each decade. Only about 64,000 acres of urban land returned to rural uses in the fast-growth counties during the 1970's.

Some Forestland Becomes Agricultural

Agricultural land use shifts are more erratic than residential shifts. Nearly 2.4 million acres shifted out of agriculture during the 1970's, while 749,000 acres shifted into agriculture, mostly from forestland. Forest decreased 5 percent in both decades, one-half of the decline shifting to urban uses.

The percentage shifts from urban land to other uses were similar east and west of the Mississippi River. But, percentage shifts out of agriculture and forest were

Land Use Change in Fast-Growth Counties, 1970-80

Land use	Total 1970	1980 land use: Residential	Commercial	Mixed urban	Agriculture	Forest	Misc.
		1,000 acres					
Residential	3,709	3,676	11	11	11	0	0
Commercial	1,060	0	1,044	6	10	0	0
Mixed urban	2,104	283	58	1,702	43	6	11
Agricultural	126,154	1,033	253	440	123,737	441	249
Forest	26,928	492	49	216	572	25,503	97
Misc.	3,919	4	6	0	113	44	3,752
Total 1980	163,874	5,489	1,421	2,375	124,486	25,994	4,110
Percent change		48.0	34.1	12.9	-1.3	-3.5	4.9

Source: ERS data on land use change for the 1970's. Land use was interpreted from photos.

Ratios of Land Urbanized to Population Added in Fast-Growth Counties*

Area	Number of counties	Annual pop. change	Annual urban land shift	Urban land change per cap.
		Thousands	1,000 acres	Acres
Western U.S.				
1950-60	22	313	36.9	0.12
1960-70	21	247	34.1	0.14
1970-80	75	661	142.7	0.22
Eastern U.S.				
1960-70	32	271	43.4	0.16
1970-80	60	443	98.5	0.22
U.S.				
1960-70	53	518	77.5	0.15
1970-80	135	1,104	241.2	0.22

*Data are from the current and two previous ERS studies and the U.S. Census. Data collection procedures differ somewhat in each of the three studies.

larger in the East than in the West for both decades. This may reflect the greater population density in the East.

The loss of agricultural land was more pronounced in the 1960's than in the 1970's. During the 1970's more land shifted from forest to agriculture than shifted in the other direction, which demonstrates interchangeability between these two land uses.

Urbanization Is Using More Land Per Person

The amount of land used for urban development during the 1970's averaged 0.22 acres per added urban person in fast-growth counties. The rate was about the same in the West as in the East.

Land converted to urban use per added person increased from the 1960's to the 1970's. For all fast-growth counties, the ratio went from 0.15 acres per added person in the 1960's to 0.22 in the 1970's. In the East the ratio went from 0.16 in the 1960's to 0.22 in the 1970's.

One possible explanation for the increasing land area per person is that smaller households require more land per capita than larger households. Demographically, household size has tended to decrease.

Less Than 1 Million Acres Converted a Year

Population increased by 10 million people during the 1970's in the 135 fast-growth counties, accounting for 47 percent of the U.S. population increase of 23 million during the decade.

Urban land conversion per added person is higher in slower growing counties, possibly because land is less expensive. ERS studies show .40 to .42 acres are converted per person in counties outside Standard Metropolitan Statistical Areas (SMSA's). Applying these rates to all population growth outside of fast-growth counties yields 0.50 million acres converted to urban uses per year.

How Land Use Changes Were Ascertained

Photographic data from a number of sources were interpreted by Earthsat Corporation for nearly 30,000 sample points in 135 fast population growth areas around the country. Analysis of the data shows national and regional (East and West) transition patterns.

Paired-point sampling was used to identify changes in land use by plotting and interpreting points on aerial photography at the same location for two different dates. The method provides "to" and "from" information on land uses, whereas most other studies can show only net changes.

Dates varied, depending on photo availability, from 1968 to 1974 for the early date and 1978 to 1984 for the late date. Photos were available for 135 of the 139 counties that met the fast-growth definition of an increase of at least 25,000 persons and 25 percent. Land uses described here were combined from 19 original classes.

There is no comparable information on land per capita in areas with population losses, but one would assume the rates of farmland conversion to be small without population pressures. Conversion of urban lands back to agriculture likely would not be high in areas losing population.

Adding the fast-growth counties to the slower growth counties results in an estimate that urban area for the United States grew annually an average of 0.74 million acres during the 1970's. This is consistent with previous ERS estimates and below most other estimates of farmland conversion, which have ranged as high as 3 million acres per year. *[Marlow Vesterby and Douglas H. Brooks (202) 786-1422]*

FORAGE SEED OUTLOOK: HIGHER PRICES, IMPORTS

Partially because of the Conservation Reserve Program (CRP), the United States is importing more forage seeds than in the past and farmers are paying higher prices for them. Under this

program, established in 1985, farmers receive rental payments for taking highly erodible cropland out of production and seeding it to grasses, trees, or other vegetative cover for a minimum of 10 years.

A total of 24.25 million acres of cropland was taken out of production and placed under CRP vegetative cover from 1986 to July 1988. The CRP goal is to place 40 to 45 million acres of cropland under cover crops by 1990.

Forage seed demand rose sharply as 2 million acres entered the CRP in 1986, more than 13 million acres in 1987, and 8.5 million in 1988 (through August). About 90 percent of the CRP land is in grasses.

Expanding demand for grass seeds led to sharp price rises for most field grasses, such as timothy, orchard grass, rye grass and fescue. The price increases since 1986 have ranged from 7 percent for fescue seed to 69 percent for timothy.

Most of the grass seeds are grown in the Pacific Northwest (Washington, Idaho, and Oregon). In 1987, a dry fall—when seed heads are formed—reduced output of grass seeds. Strong demand and the moderate 1987 yields led to higher prices in all grass seed categories in 1988.

The 1988 drought, however, has not greatly affected grass seed crops, so the outlook for this year's production is brighter. Prices in 1989 may stabilize if favorable weather boosts 1988 production.

Prices Paid by Farmers for Selected Forage Seeds*

Item	1986	1987	1988	Increase, '86-'88
		$/cwt		Percent
Timothy	78.00	107.00	132.00	69
Sericea lespedeza	193.00	233.00	275.00	42
Orchard grass	87.00	115.00	116.00	33
Rye grass	36.00	45.10	47.90	33
Alfalfa, certified	219.00	222.00	245.00	12
Fescue	67.00	107.00	71.80	7
Red clover	133.00	106.00	143.00	8

*Derived from the April survey of farm supply dealers conducted by the National Agricultural Statistics Service, USDA.

Value of U.S. Forage Seed Imports, 1985-87

Item	1985	1986	1987	Increase, '86-'87
		$1,000		Percent
Bluegrass seed, NES	400	481	854	78
Bluegrass seed, Ky.	1,376	938	1,534	64
Creeping red fescue seed	5,046	8,554	10,252	20
Orchard grass seed	38	74	698	843
Fescue seed, NSPED	110	323	1,367	323
Rye grass seed	646	2,974	8,229	177
Timothy seed	555	904	3,397	276
Clover seed, red	2,181	6,185	8,305	34
Alfalfa seed	568	823	2,765	236
Subtotal	10,934	21,257	37,422	76
Other forage	7,057	17,372	27,997	61
Total	17,991	38,629	65,419	69

Source: U.S. Department of Commerce.

The United States is experiencing a strong surge in imports of forage seeds, especially grass seeds, again primarily attributable to the CRP. Forage seed import value rose 67 percent in one year, from $39 million in 1986 to $65 million in 1987. However, forage seed exports increased only 1 percent, resulting in a 71-percent decline in value in the U.S. trade balance in calendar 1987.

The sharpest import rises were in orchard grass, fescue, timothy, alfalfa, and rye grass seeds. Forage seed imports are likely to continue to grow if enrollment goals for the CRP are to be met.

Canada is the primary source of imports. In 1987, imports from Canada increased $18 million, or 59 percent, from 1986. New Zealand, Australia, and the Netherlands were second-, third-, and fourth-place sources respectively.

Given the demand increase, U.S. production of these seeds also will expand somewhat and, to that extent, hold the rise in imports in check. However, the domestic industry has been reluctant to gear up to satisfy the extra demand for two reasons. First, the CRP enrollment period will end in 1990, so producers see the surge in demand as temporary. Second, once the acres are seeded, their maintenance will require less seed per year. *[Mohinder Gill (202) 786-1456]*

Drought Likely Hurt Grain Seed Production

The drought in rainfall-dependent States such as Illinois, Iowa, Indiana, and Ohio likely hurt seed production for hybrid corn and soybeans. An August seed industry survey estimated that corn seed losses could be close to half of planned production.

In hard-hit Iowa, the loss of the corn seed crop is anticipated at 60 to 70 percent. Iowa's soybean seed production is estimated down about 40 percent, according to industry sources. This loss is attributed to poor pollination.

However, in States where land is irrigated, the effect is less severe. For example, Nebraska's corn seed crop loss is estimated to be only 10-15 percent.

Lower 1988 grain seed yield means tighter supplies. This will put upward pressure on 1989 seed prices, particularly if 1989 planted acreage of the principal crops increases significantly as expected.

However, upward pressure on seed prices will be moderated by imports, current large seed stocks, farmers' ability to use seed produced on their own farms, and off-season seed production in the southern United States and in foreign countries.

Food and Marketing

WHEAT PRICES FROM FARM TO RETAIL

How much has the drought raised processor and consumer prices for wheat and wheat products through increased wheat prices at the farmgate? How long will wheat-related processor (industrial) and consumer prices remain elevated? Past movements suggest that the drought's influence on farm prices of wheat will be felt for about a year at the industrial level and for a year and a half or more by consumers.

A statistical model can be constructed to summarize how wheat-related farm, processor, and consumer prices have moved together in the past (see the accompanying box). The model is then "shocked" with a one-time increase in farm prices to approximate the 7.7-percent average monthly increase for May-July 1988, when the effects of the drought were first reflected in the market.

The accompanying graph summarizes how past processor and consumer prices would have responded to such a farm price spike. The graph describes the impulse of percent changes through time in the processor price for wheat and the consumer price for wheat-based goods.

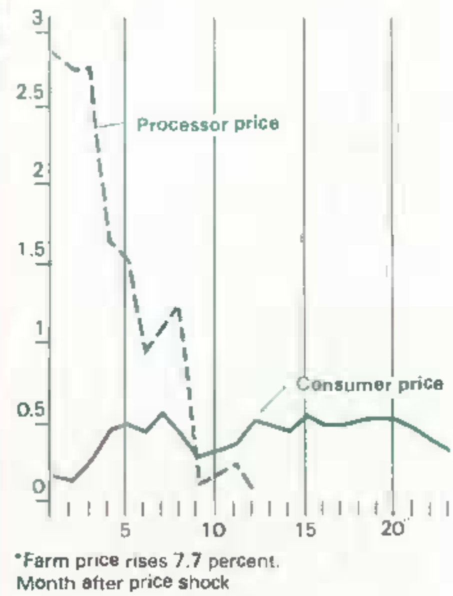
When the farm price shock occurs, processor prices for wheat rise immediately, peaking a month after the rise in the farm price. At their highest, processor prices increase less than half of the 7.7-percent increase in the farm price. Processor price increases are felt for about a year, but the impulse generally declines in strength through time.

On the other hand, the 7.7-percent farm-price increase generates gradual, not immediate, increases in consumer prices of wheat-related goods. The delivery, sale, and consumption of wheat-related goods occur throughout the year and are not as closely tied as processing to the wheat crop cycle. So, the consumer price effects last more than a year.

Consumer price rises peak at 7 months, but prices stay relatively high until 17 to 20 months after the initiating farm price shock. The increase in consumer prices is smaller, but more enduring, than the jump in processor prices. At its 7-month peak, the consumer price increase is just shy of half of the corresponding increase in processor price, and is less than a tenth of the initial farm price shock.

The gradual but enduring nature of the consumer price responses, relative to processor prices, may have a number of explanations. Since wheat can be stored, consumer prices take longer to respond fully to a farm price hike because the immediate inventory of wheat-related consumer goods includes a previous crop which was priced differently. Time is required before the warehouse and retail shelf supplies of wheat-based goods made with the previous crop are consumed.

How Processor & Consumer Prices Respond To Spike in Wheat Farm Price*



*Farm price rises 7.7 percent.

How the Model Was Constructed

Historical wheat price movements were summarized using a statistical technique. A vector autoregression (VAR) model of the wheat sector's farm, processor, and consumer price levels was used. Vector autoregressions describe relationships of a variable such as the farm price of wheat to its own past as well as to past values of related variables. Such a model summarizes how prices at the different market levels have moved together and influenced each other historically.

Then the statistical model was shocked with a farm wheat price increase, presumably drought-induced, to see how such a shock might be expected—given past behavior—to influence industrial and consumer prices.

Monthly (seasonally adjusted) Bureau of Labor Statistics prices are used to represent farm, processor, and consumer prices. The farm price is the price index for wheat included in the farm products group of the producer price indexes (PPI's).

The PPI for flour in the processed foods and feeds group is used for the price paid by processors for wheat-related inputs. Consumer prices of wheat-related goods are represented by the Consumer Price Index of all urban consumers, for flour and prepared mixes.

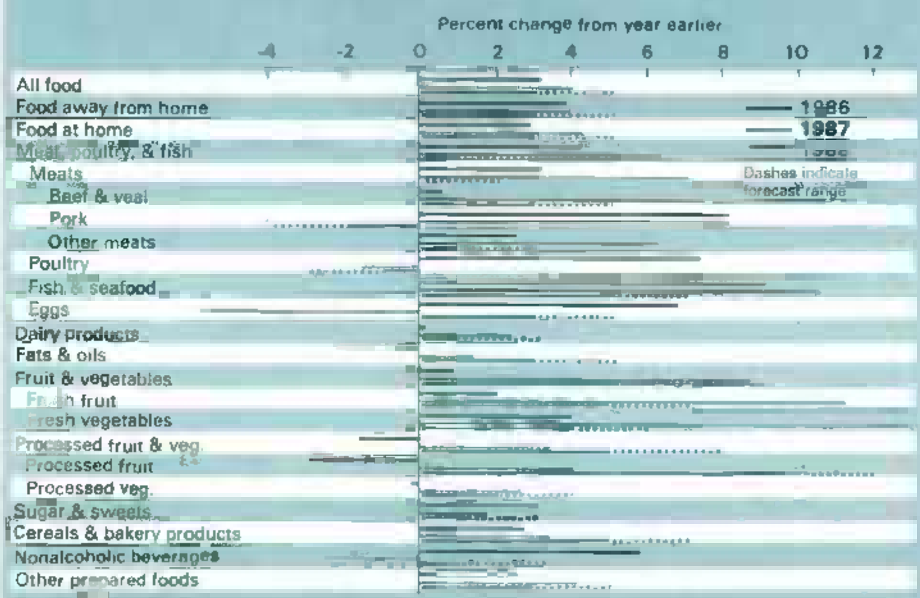
Food CPI Slows Climb

The Consumer Price Index for food in August, released September 21, rose 0.5 percent from July. The August rise was half that of July, when the index jumped 1 percent over the month before. The smaller rise in August points to a leveling of food prices for the rest of 1988; the major increases for the year are history.

Lower red meat and fish prices and smaller increases in poultry and egg prices during August helped to slow the rate of increase. Also, the rise in the fruit and vegetable index was dampened by a 0.9-percent drop in fresh vegetable prices. Prices for cereals and bakery products and fats and oils products, however, rose at a stronger rate than they did in July.

For the rest of 1988, fresh fruit and vegetable prices are likely to decline seasonally. Increased pork production in the fourth quarter will lower prices. Broiler production also will remain strong and prices are expected to go down from current levels. Beef production and prices will be stable. Because of larger food supplies, increases in the CPI for food for the rest of 1988 are likely to be small. *[Ralph Parlett (202) 786-1870]*

Processed Fruit Tops Food Price Rises



[1]Consumer Price Index

In addition, the processor wheat price is closer to the farm price than the consumer price is, and therefore is more immediately influenced. Finally, the cost of wheat is a smaller proportion of the cost of most wheat-based consumer products than of the cost of wheat-related processor inputs; processing, packaging, and other services are added between the processor and consumer stages.

One therefore expects increases in farm wheat prices to influence consumer prices in a more muted and enduring way than they do processor prices. *[Ronald A. Babula (202) 786-1785 and David A. Bessler (409) 845-3096]*

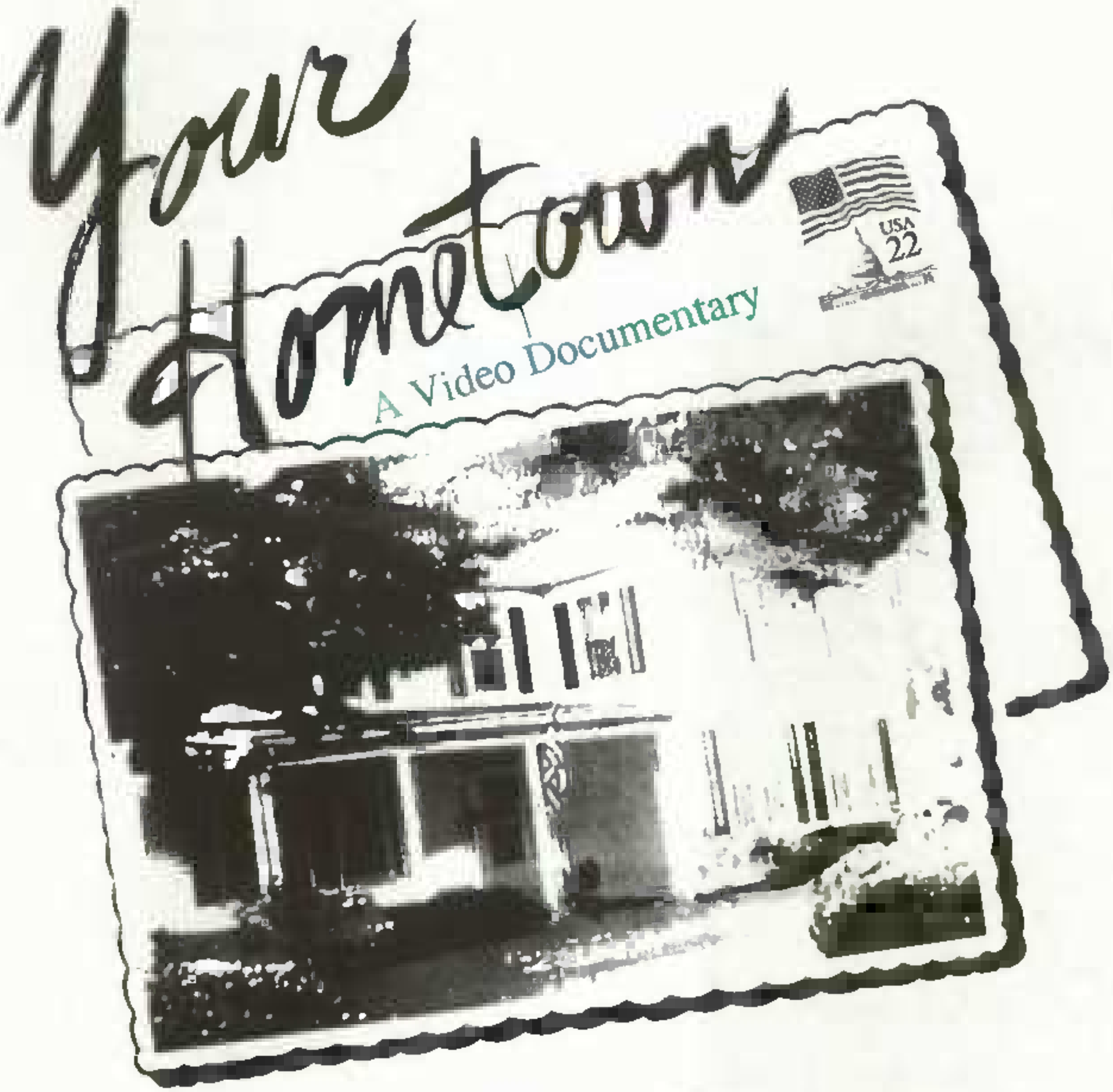
Upcoming Releases from the Agricultural Statistics Board

The following list gives the release dates of the major Agricultural Statistics Board reports that will be issued by the time the November *Agricultural Outlook* comes off press.

October

3 Egg Products
Poultry Slaughter
5 Dairy Products
6 Celery
11 Vegetables
12 Crop Production
14 Turkey Hatchery
Milk Production
20 Catfish
21 Cattle on Feed
Livestock Slaughter
Cold Storage
24 Eggs, Chickens, & Turkeys
28 Rice Stocks;
Peanut Stocks & Processing
31 Agricultural Prices

Economic Research Service
United States Department of Agriculture



Narrated by James Whitmore, "Your Hometown" is an informative and entertaining look at some remarkable people in small town rural America. The program explores the economic challenges facing rural America, and illustrates how some communities are dealing with their economic woes. Visit a Utah woman whose talent for making candy has blossomed into a business employing 25 local women. Learn about a Nebraska program which helps displaced farmers find new careers. And discover how a lake and a railroad are helping revitalize a small Georgia community.

VIDEO DOCUMENTARY
RUNNING TIME: One Hour

For Information call (202)786-1494

Return to: **Dave Carter, USDA, Room 228-E**
1301 New York Avenue, N.W.
Washington, DC 20005-4789

Cassettes of "YOUR HOMETOWN." Price: VHS-$10, 3/4-inch-$30.
Checks only (no purchase orders) made payable to: USDA-ERS.

Name ____________________

Address ____________________

Telephone ( ) ____________________

(Check one only)________ 3/4-inch________ VHS

Statistical Indicators

Summary Data

Table 1.—Key Statistical Indicators of the Food & Fiber Sector

	1987		1988					1989	
	IV	Annual	I	II	III F	IV F	Annual F	I F	Annual F
Prices received by farmers (1977=100)	129	127	130	134	143	142	137	--	--
Livestock & products	144	146	148	149	150	150	149	--	--
Crops	113	106	111	118	135	135	124	--	--
Prices paid by farmers, (1977=100)									
Production items	150	147	152	155	160	153	153	--	--
Commodities & services, interest, taxes, & wages	165	162	165	168	172	168	168	--	--
Cash receipts ($ bil) 1/	138	138	153	154	156	136	143-148	--	--
Livestock ($ bil)	80	76	76	76	83	77	77-79	--	--
Crops ($ bil)	58	62	58	78	73	59	66-68	--	--
Market basket (1982-84=100)									
Retail cost	112	112	114	115	--	--	--	--	--
Farm value	95	97	96	99	--	--	--	--	--
Spread	122	119	123	123	--	--	--	--	--
Farm value/retail cost (%)	30	30	30	30	--	--	--	--	--
Retail prices (1982-84=100)									
Food	114	114	116	117	119	119	118	--	--
At home	112	112	114	115	117	117	116	--	--
Away-from home	119	117	120	121	123	124	122	--	--
Agricultural exports ($ bil) 2/	8.5	27.9	9.4	8.7	7.4	9.0	34.0	9.0	--
Agricultural imports ($ bil) 2/	5.2	20.6	5.7	5.0	4.6	5.0	20.5	5.5	--
Commercial production									
Red meat (mil lb)	10,096	38,442	9,665	9,682	10,103	10,043	39,493	9,563	37,885
Poultry (mil lb)	5,112	19,772	4,986	5,209	5,230	5,155	20,580	5,040	21,340
Eggs (mil doz)	1,479	5,797	1,464	1,415	1,410	1,440	5,729	1,420	5,655
Milk (bil lb)	34.7	142.5	36.1	37.8	35.4	34.3	143.6	35.3	142.2
Consumption, per capita									
Red meat and poultry (lb)	56.2	212.7	53.6	54.2	55.5	56.7	220.0	53.0	216.2
Corn beginning stocks (mil bu) 3/	4,881.7	4,881.7	9,768.5	7,635.2	5,833.0	--	--	--	--
Corn use (mil bu) 3/	2,177.9	7,409.8	2,134.2	1,804.3	--	--	--	--	--
Prices 4/									
Choice steers--Omaha ($/cwt)	64.31	64.60	68.28	72.81	67-68	67-71	68-70	67-73	71-77
Barrows and gilts--7 mkts. ($/cwt)	43.51	51.69	44.74	45.90	44-45	38-42	43-45	42-48	44-50
Broilers--12-city (cts/lb)	42.5	47.4	45.4	55.6	67-68	53-57	55-57	50-56	51-57
Eggs--NY Gr. A large (cts/doz)	59.2	61.6	55.0	53.3	71-72	71-75	62-64	69-75	70-76
Milk--all at plant ($/cwt)	12.83	12.51	12.23	11.43	11.65-11.80	12.60-13.20	11.95-12.20	12.10-12.90	11.95-12.75
Wheat--Kansas City HRW ($/bu)	2.86	2.72	3.20	3.38	--	--	--	--	--
Corn--Chicago ($/bu)	1.74	1.64	1.95	2.29	--	--	--	--	--
Soybeans--Chicago ($/bu)	5.36	5.19	6.14	7.01	--	--	--	--	--
Cotton--Avg. spot mkt. (cts/lb)	63.7	64.3	59.1	61.5	--	--	--	--	--

	1980	1981	1982	1983	1984	1985	1986	1987	1988 F
Gross cash income ($ bil)	143.3	146.0	150.6	150.4	155.2	156.8	152.0	160.4	163-168
Gross cash expenses ($ bil)	109.1	113.2	112.8	113.5	116.6	110.2	100.6	103.3	106-109
Net cash income ($ bil)	34.2	32.8	38.1	36.9	38.7	46.6	51.4	57.1	55-60
Net farm income ($ bil)	16.1	26.9	23.5	12.7	32.2	32.3	37.5	46.3	38-43
Farm real estate values (1977=100) 5/	145	158	157	148	146	128	112	103	106

1/ Quarterly data seasonally adjusted at annual rates. 2/ Annual data based on Oct.-Sept. fiscal years ending with year indicated. 3/ Dec.-Feb. first quarter; Mar.-May second quarter; June-Aug. third quarter; Sept.-Nov. fourth quarter; Sept.-Aug. annual. Use includes exports and domestic disappearance. 4/ Simple averages. 5/ Nominal values as of February 1. F = forecast. -- = not available.

U.S. and Foreign Economic Data

Table 2.—U.S. Gross National Product & Related Data

	Annual			1987			1988	
	1985	1986	1987	II	III	IV	I	II R
	$ billion (quarterly data seasonally adjusted at annual rates)							
Gross national product	4,014.9	4,240.3	4,526.7	4,484.2	4,568.0	4,662.8	4,724.5	4,819.7
Personal consumption expenditures	2,629.0	2,807.5	3,012.1	2,992.2	3,058.2	3,076.3	3,128.1	3,189.1
Durable goods	372.2	406.5	421.9	420.5	441.4	422.0	437.8	448.2
Nondurable goods	911.2	943.6	997.9	995.3	1,006.6	1,012.4	1,016.2	1,035.7
Clothing & shoes	156.4	167.0	178.2	176.8	180.4	181.2	180.5	183.4
Food & beverages	471.6	501.0	526.4	525.3	528.4	530.9	535.9	546.1
Services	1,345.6	1,457.3	1,592.3	1,576.4	1,610.2	1,641.9	1,674.1	1,705.2
Gross private domestic investment	643.1	665.9	712.9	698.5	702.8	764.9	763.4	758.2
Fixed investment	631.8	650.4	673.7	665.8	688.3	692.9	698.1	715.3
Change in business inventories	11.3	15.5	39.2	32.7	14.5	72.0	65.3	42.9
Net exports of goods & services	-78.0	-104.4	-123.0	-122.2	-125.2	-125.7	-112.1	-88.6
Government purchases of goods & services	820.8	871.2	924.7	915.7	932.2	947.3	945.2	961.0
	1982 $ billion (quarterly data seasonally adjusted at annual rates)							
Gross national product	3,618.7	3,721.7	3,847.0	3,823.0	3,865.3	3,923.0	3,956.1	3,988.1
Personal consumption expenditures	2,354.8	2,455.2	2,521.0	2,516.6	2,545.2	2,531.7	2,559.8	2,577.2
Durable goods	355.1	385.0	390.9	391.3	406.5	387.6	401.1	409.3
Nondurable goods	847.4	879.5	890.5	889.8	891.9	890.5	892.7	892.7
Clothing & shoes	147.2	157.6	160.5	158.2	162.9	160.3	159.6	156.5
Food & beverages	435.5	448.0	450.4	450.1	449.4	449.2	451.4	453.0
Services	1,152.3	1,190.7	1,239.5	1,235.5	1,246.8	1,253.6	1,265.9	1,275.2
Gross private domestic investment	637.0	643.5	674.8	660.1	667.9	724.7	728.9	717.7
Fixed investment	628.7	628.1	640.4	632.3	654.9	657.6	662.9	681.6
Change in business inventories	9.1	15.4	34.4	27.8	13.0	67.1	66.0	36.0
Net exports of goods & services	-104.3	-137.5	-128.9	-126.0	-130.7	-126.0	-109.0	-90.1
Government purchases of goods & services	731.2	760.5	780.2	772.2	782.9	792.6	776.4	783.3
GNP implicit price deflator % change	3.0	2.7	3.3	3.5	3.1	2.4	1.7	5.1
Disposable personal income ($ bil)	2,838.7	3,019.6	3,209.7	3,154.1	3,224.9	3,315.8	3,375.6	3,421.0
Disposable per. income (1982 $ bil)	2,542.8	2,640.9	2,686.3	2,652.8	2,683.9	2,728.9	2,762.3	2,764.6
Per capita disposable per. income ($)	11,861	12,496	13,157	12,947	13,204	13,543	13,760	13,918
Per capita dis. per. income (1982 $)	10,625	10,929	11,012	10,889	10,989	11,145	11,260	11,247
U.S. population, total, incl. military abroad (mil)	239.3	241.6	243.9	243.6	244.2	244.8	245.3	245.8
Civilian population (mil)	237.0	239.4	241.7	241.4	242.0	242.6	243.1	243.6

	Annual			1987	1988			
	1985	1986	1987	July	Apr	May	June	July
	Monthly data seasonally adjusted							
Industrial production (1977=100)	123.7	125.1	129.8	130.6	135.4	136.1	136.6	137.7
Leading economic indicators (1967=100)	168.6	179.3	189.5	190.9	192.5	191.1	193.7	192.1
Civilian employment (mil. persons)	107.2	109.6	112.4	114.7	114.7	114.2	115.0	115.1
Civilian unemployment rate (%)	7.2	7.0	6.2	6.1	5.4	5.6	5.3	5.4
Personal income ($ bil annual rate)	3,325.3	3,531.1	3,780.0	3,778.6	3,999.3	4,020.6	4,046.0	4,071.2
Money stock-M2 (daily avg) ($ bil) 1/	2,562.6	2,807.8	2,901.1	2,858.0	2,990.9	3,002.2	3,016.6	3,025.8
Three-month Treasury bill rate (%)	7.48	5.98	5.82	5.78	5.92	6.27	6.50	6.73
AAA corporate bond yield (Moody's) (%)	11.37	9.02	9.38	9.42	9.67	9.90	9.86	9.96
Housing starts (thou) 2/	1,742	1,805	1,621	1,594	1,584	1,393	1,454	1,489
Auto sales at retail, total (mil)	11.0	11.4	10.3	10.7	10.5	10.4	11.0	10.7
Business inventory/sales ratio	1.55	1.54	1.51	1.51	1.51	1.51	1.50	--
Sales of all retail stores ($ bil)	115.0	121.2	125.5	127.0	131.7	132.8	133.4 P	134.0
Nondurable goods stores ($ bil)	71.8	73.9	76.9	79.6	81.3	82.4	82.7 P	83.0
Food stores ($ bil)	23.7	24.6	25.3	26.3	26.9	27.5	27.4 P	27.6
Eating & drinking places ($ bil)	11.1	12.1	12.7	12.2	12.6	12.7	12.8 P	12.9
Apparel & accessory stores ($ bil)	6.2	6.7	7.1	6.6	6.6	6.7	6.8 P	6.9

1/ Annual data as of December of the year listed. 2/ Private, including farm. R = revised. P = preliminary. -- = not available.

Information contact: James Malley (202) 786-1782.

Table 3.—Foreign Economic Growth, Inflation, & Export Earnings

	Average 1970-74	Average 1975-79	1980	1981	1982	1983	1984	1985	1986	1987 P	1988 F	1989 F
	Annual percent change											
Total foreign												
Real GNP	5.5	3.7	2.6	1.6	1.7	2.0	3.2	3.0	2.7	2.9	3.1	2.9
CPI	10.2	14.0	16.9	15.6	14.4	18.4	22.5	21.6	11.4	16.1	29.3	36.8
Export earnings	27.6	14.6	22.2	-2.7	-7.0	-2.6	5.6	1.6	11.8	18.5	10.6	7.1
Developed less U.S.												
Real GNP	4.8	3.1	2.4	1.4	1.1	1.9	3.4	3.3	2.4	2.9	3.2	2.6
CPI	8.4	9.4	10.9	9.6	8.0	6.0	5.1	4.7	2.7	2.6	2.7	3.2
Export earnings	23.9	14.9	17.0	-3.3	-4.3	-0.5	6.3	4.6	19.4	17.6	11.2	5.4
Centrally planned												
Real GNP	5.1	3.5	1.5	2.1	2.7	3.4	3.7	2.9	3.9	3.2	3.2	3.2
Export earnings	19.4	16.1	16.5	3.4	6.0	8.2	1.5	-5.1	7.3	6.7	7.7	8.0
Latin America												
Real GNP	7.4	5.1	5.3	0.7	-0.5	-2.7	3.3	3.6	3.7	2.3	0.1	2.4
CPI	23.5	53.7	61.3	64.9	72.6	126.2	174.1	179.4	86.1	136.8	271.9	350.9
Export earnings	28.2	12.8	30.1	5.3	-10.0	-0.8	6.7	-7.7	-15.5	8.7	8.6	6.7
Africa & Middle East												
Real GNP	8.9	6.4	1.3	0.0	1.4	0.1	1.1	0.0	-1.2	1.2	1.5	2.7
CPI	8.7	16.4	24.6	17.3	12.9	16.7	19.4	11.2	12.0	13.2	16.9	14.4
Export earnings	50.9	13.2	37.9	-9.2	-19.7	-17.5	-7.0	-6.9	-14.7	15.0	-0.2	7.6
Asia												
Real GNP	6.0	6.8	6.3	6.6	3.6	6.6	5.4	4.0	5.8	5.8	7.1	5.7
CPI	13.0	8.4	16.4	14.1	7.3	7.7	8.5	5.2	4.4	5.3	6.7	7.0
Export earnings	28.9	18.6	27.8	6.8	-0.3	3.4	13.7	-1.2	5.8	28.2	13.9	14.4

P = preliminary. F = forecast.

Information contact: Timothy Baxter (202) 786-1706.

Farm Prices

Table 4.—Indexes of Prices Received & Paid by Farmers, U.S. Average

	Annual 1985	Annual 1986	Annual 1987	1987 Aug	1988 Mar	1988 Apr	1988 May	1988 June	1988 July R	1988 Aug
	1977=100									
Prices received										
All farm products	128	123	127	127	130	130	134	137	141	144
All crops	120	107	106	102	110	111	117	127	133	136
Food grains	133	109	103	94	118	119	125	138	143	146
Feed grains & hay	122	98	85	82	97	100	105	127	142	138
Feed grains	122	96	81	78	94	95	98	126	141	137
Cotton	93	91	98	105	95	98	97	101	97	91
Tobacco	153	138	129	127	134	126	126	126	126	129
Oil-bearing crops	84	77	79	79	91	95	103	117	122	121
Fruit, all	180	170	182	176	163	160	195	179	161	180
Fresh market 1/	192	178	193	186	170	166	206	191	171	195
Commercial vegetables	129	130	144	127	136	132	115	116	126	147
Fresh market	122	123	147	126	136	131	108	110	122	148
Potatoes & dry beans	124	114	127	122	102	105	118	113	151	161
Livestock & products	136	138	146	150	148	148	151	147	147	152
Meat animals	142	145	163	171	171	172	176	168	163	170
Dairy products	131	129	129	126	123	119	117	116	117	119
Poultry & eggs	119	128	107	109	101	98	106	114	136	137
Prices paid										
Commodities & services, interest, taxes, & wage rates	163	159	162	--	--	168	--	--	172	--
Production items	151	144	147	--	--	155	--	--	160	--
Feed	116	108	103	--	--	112	--	--	147	--
Feeder livestock	154	153	179	--	--	197	--	--	180	--
Seed	153	148	148	--	--	150	--	--	150	--
Fertilizer	135	124	118	--	--	132	--	--	132	--
Agricultural chemicals	128	127	124	--	--	127	--	--	127	--
Fuels & energy	201	162	161	--	--	163	--	--	166	--
Farm & motor supplies	146	144	144	--	--	147	--	--	147	--
Autos & trucks	193	198	208	--	--	215	--	--	216	--
Tractors & self-propelled machinery	178	174	174	--	--	179	--	--	179	--
Other machinery	183	184	185	--	--	199	--	--	199	--
Building & fencing	136	136	137	--	--	137	--	--	138	--
Farm services & cash rent	150	145	146	--	--	150	--	--	150	--
Interest payable per acre on farm real estate debt	237	219	207	--	--	193	--	--	193	--
Taxes payable per acre on farm real estate	133	134	136	--	--	138	--	--	138	--
Wage rates (seasonally adjusted)	154	160	167	--	--	174	--	--	174	--
Production items, interest, taxes, & wage rates	157	150	152	--	--	159	--	--	162	--
Ratio, prices received to prices paid 2/	79	77	78	77	79	77	80	82	82	84
Prices received (1910-14=100)	585	561	578	579	593	594	614	627	642	659
Prices paid, etc. (Parity index) (1910-14=100)	1,120	1,096	1,115	--	--	1,158	--	--	1,182	--
Parity ratio (1910-14=100) 2/	52	51	52	--	--	51	--	--	55	--

1/ Fresh market for noncitrus; fresh market and processing for citrus. 2/ Ratio of index of prices received for all farm products to index of prices paid for commodities and services, interest, taxes, and wage rates. Ratio derived using the most recent prices paid index. Prices paid data is quarterly and will be published in January, April, July, and October. R = revised. P = preliminary. -- = not available.

Information contact: National Agricultural Statistics Service (202) 447-5446.

Table 5.—Prices Received by Farmers, U.S. Average

	Annual 1/			1987	1988					
	1985	1986	1987	Aug	Mar	Apr	May	June	July R	Aug P
Crops										
All wheat ($/bu)	3.20	2.71	2.55	2.36	2.74	2.79	2.99	3.36	3.50	3.56
Rice, rough ($/cwt)	7.85	5.04	4.49	3.74	8.79	8.33	7.71	7.29	7.51	7.61
Corn ($/bu)	2.49	1.96	1.56	1.47	1.86	1.88	1.95	2.41	2.72	2.66
Sorghum ($/cwt)	3.97	3.11	2.56	2.52	2.92	2.94	2.91	4.13	4.56	4.33
All hay, baled ($/ton)	69.93	61.64	62.91	61.60	66.20	72.90	80.90	76.80	83.10	83.10
Soybeans ($/bu)	5.42	5.00	5.07	5.02	6.06	6.40	6.99	8.14	8.50	8.40
Cotton, Upland (cts/lb)	56.1	54.8	59.4	63.7	57.7	59.4	58.9	61.2	58.6	55.2
Potatoes ($/cwt)	3.92	5.03	4.47	4.95	4.00	4.09	4.66	4.23	5.70	6.30
Lettuce ($/cwt)	10.90	11.90	14.70	18.00	13.80	9.33	7.89	10.70	7.62	12.20
Tomatoes ($/cwt)	24.10	25.10	26.00	17.30	28.60	29.90	22.60	24.80	31.00	41.70
Onions ($/cwt)	9.08	10.90	12.50	10.60	12.50	15.10	9.10	8.49	11.50	8.58
Dry edible beans ($/cwt)	17.60	19.10	14.90	17.00	16.30	16.90	18.40	21.00	27.50	26.00
Apples for fresh use (cts/lb)	14.7	19.8	19.4	16.0	12.8	11.3	11.1	10.9	19.7	26.1
Pears for fresh use ($/ton)	349.00	369.00	225.00	207.00	227.00	249.00	404.00	526.00	410.00	383.00
Oranges, all uses ($/box) 2/	7.41	4.42	4.55	6.18	5.99	6.42	7.87	7.76	4.11	4.92
Grapefruit, all uses ($/box) 2/	4.01	4.29	5.00	5.95	4.86	4.50	3.96	2.89	4.74	4.09
Livestock										
Beef cattle ($/cwt)	54.00	52.80	61.40	61.90	68.30	69.00	69.30	65.00	63.20	66.40
Calves ($/cwt)	62.40	60.90	78.10	82.30	93.50	93.20	93.40	84.90	87.70	90.30
Hogs ($/cwt)	43.90	50.10	50.90	58.60	42.20	41.90	46.30	47.10	44.10	45.40
Lambs ($/cwt)	68.10	69.10	77.90	76.10	80.20	74.80	72.60	60.20	60.00	57.90
All milk, sold to plants ($/cwt)	12.75	12.50	12.54	12.20	11.90	11.60	11.40	11.30	11.40	11.60
Milk, manuf. grade ($/cwt)	11.72	11.46	11.37	11.20	10.70	10.60	10.40	10.30	10.40	10.70
Broilers (cts/lb)	30.1	34.5	28.5	31.7	27.5	28.0	33.5	36.7	42.1	41.9
Eggs (cts/doz) 3/	57.4	61.2	53.8	49.8	50.8	45.5	43.1	45.7	57.8	58.1
Turkeys (cts/lb)	47.2	44.4	34.2	32.1	28.2	28.4	29.7	31.6	39.4	41.6
Wool (cts/lb) 4/	63.3	66.8	91.7	83.1	118.0	153.0	165.0	161.0	133.0	128.0

1/ Calendar year averages, except for potatoes, dry edible beans, apples, oranges, and grapefruit, which are crop years. 2/ Equivalent on-tree returns. 3/ Average of all eggs sold by producers including hatching eggs and eggs sold at retail. 4/ Average local market price, excluding incentive payments. R = revised. P = preliminary.

Information contact: National Agricultural Statistics Service (202) 447-5446.

Producer & Consumer Prices

Table 6.—Consumer Price Index for All Urban Consumers, U.S. Average (Not Seasonally Adjusted)

	Annual	1987		1988						
	1987	June	Dec	Jan	Feb	Mar	Apr	May	June	July
	1982-84=100									
Consumer price index, all items	113.6	113.8	115.4	115.7	116.0	116.5	117.1	117.5	118.0	118.5
Consumer price index, less food	113.6	113.8	115.5	115.7	116.0	116.6	117.2	117.6	118.1	118.4
All food	113.5	113.7	114.7	115.7	115.7	115.9	116.6	117.0	117.6	118.8
Food away from home	117.0	117.2	118.9	119.3	119.7	120.2	120.7	121.0	121.5	122.1
Food at home	111.9	112.1	112.8	114.1	113.9	113.9	114.6	115.1	115.8	117.3
Meats 1/	109.6	111.7	110.4	110.1	110.2	110.9	110.8	111.7	113.8	113.4
Beef & veal	106.3	108.4	108.5	107.7	108.5	109.8	110.5	111.7	114.1	113.4
Pork	115.9	119.7	113.1	113.4	112.3	112.6	111.4	111.7	114.6	114.3
Poultry	112.6	111.0	107.8	108.9	108.4	109.1	110.2	114.0	120.1	129.0
Fish	129.9	129.7	133.3	137.2	137.0	136.0	139.3	136.1	136.0	138.1
Eggs	91.5	87.8	85.5	90.1	85.5	87.9	85.0	81.8	83.6	95.1
Dairy products 2/	105.9	105.3	106.7	107.4	107.3	107.2	107.1	107.4	107.2	107.6
Fats & oils 3/	108.1	108.4	107.7	108.5	109.5	110.3	110.3	111.2	111.5	112.6
Fresh fruit	132.0	133.9	126.3	130.7	132.6	133.8	139.9	146.6	143.6	147.8
Processed fruit	110.6	110.8	112.3	115.1	118.0	119.4	122.1	121.8	123.5	123.0
Fresh vegetables	121.6	121.0	140.2	143.9	133.7	125.6	127.5	124.5	121.8	127.0
Potatoes	116.0	139.1	103.8	104.6	106.2	108.5	111.2	114.7	122.2	125.7
Processed vegetables	107.1	107.7	107.3	107.2	107.6	107.9	108.4	108.6	110.0	111.3
Cereals & bakery products	114.8	115.2	116.8	118.1	118.7	118.9	119.8	120.3	120.8	122.1
Sugar & sweets	111.0	111.1	111.0	112.2	112.2	112.6	112.3	112.5	113.3	114.0
Beverages, nonalcoholic	107.5	105.9	104.8	106.9	107.7	107.7	107.8	107.5	107.1	107.2
Apparel commodities less footwear	109.6	105.7	111.7	109.0	108.8	113.7	116.6	115.7	113.6	111.3
Footwear	105.1	103.4	107.2	106.1	105.8	107.3	109.4	109.7	109.2	108.2
Tobacco & smoking products	133.6	135.0	137.0	140.8	142.2	142.8	142.9	143.2	143.6	147.5
Beverages, alcoholic	114.1	114.4	115.4	115.8	116.8	117.4	118.0	118.2	118.7	119.2

1/ Beef, veal, lamb, pork, and processed meat. 2/ Includes butter. 3/ Excludes butter.

Information contact: Ralph Parlett (202) 786-1870.

Table 7.—Producer Price Indexes, U.S. Average (Not Seasonally Adjusted)

	Annual			1987	1988					
	1985	1986	1987	July	Feb	Mar R	Apr	May	June	July
					1982=100					
Finished goods 1/	104.7	103.2	105.4	106.0	106.1	106.3	106.9	107.5	107.9	108.5
Consumer foods	104.6	107.3	109.5	110.9	109.4	110.1	110.2	111.3	112.5	113.7
Fresh fruit	108.1	112.9	111.4	110.5	106.9	106.8	102.7	103.6	112.2	115.0
Fresh & dried vegetables	99.4	97.8	103.8	114.5	96.4	98.2	98.4	96.7	90.6	104.7
Dried fruit	88.7	91.9	95.0	95.2	97.8	97.8	97.9	97.9	99.2	99.3
Canned fruit & juice	113.8	111.0	115.4	116.3	119.1	119.5	119.7	119.8	119.8	120.2
Frozen fruit & juice	118.5	103.0	113.4	112.8	130.0	131.1	130.1	130.1	131.8	130.5
Fresh veg. excl. potatoes	100.3	99.3	99.0	101.9	96.8	95.8	98.5	88.5	86.6	96.9
Canned veg. & juices	101.9	101.2	103.5	103.6	103.3	103.5	103.2	103.2	103.7	107.9
Frozen vegetables	106.5	106.6	107.3	107.4	106.6	107.0	106.7	106.4	106.6	107.1
Potatoes	101.2	104.0	120.5	132.8	100.2	111.6	97.6	124.2	89.9	104.2
Eggs	95.6	99.5	87.6	85.3	73.8	79.7	66.7	68.0	75.1	92.2
Bakery products	113.9	116.6	118.5	118.4	123.3	123.7	123.5	124.3	125.5	126.0
Meats	90.9	93.9	100.3	107.5	97.9	98.7	98.6	101.8	104.2	101.5
Beef & veal	90.3	88.1	95.4	100.5	96.4	101.0	101.0	102.4	103.8	101.0
Pork	89.1	99.9	104.7	119.0	96.4	91.9	92.0	100.0	104.1	101.2
Processed poultry	110.4	116.7	103.5	101.9	94.7	98.6	100.6	107.4	114.2	124.6
Fish	114.6	124.9	141.9	135.1	149.6	151.2	159.1	159.8	157.4	152.0
Dairy products	100.2	99.9	101.7	101.4	100.5	100.1	99.9	100.1	100.5	101.2
Processed fruits & vegetables	107.9	104.9	108.6	108.7	111.4	111.8	111.6	111.5	112.0	113.4
Shortening & cooking oils	123.9	103.3	104.0	103.6	114.5	114.3	117.5	118.5	122.8	129.5
Consumer finished goods less foods	103.3	98.5	100.7	101.2	101.5	101.5	102.5	102.9	103.0	103.7
Beverages alcoholic	107.6	110.1	110.4	109.7	111.4	112.4	112.1	111.6	111.7	111.8
Soft drinks	107.7	109.5	111.9	111.7	113.3	113.8	114.1	114.0	113.4	113.2
Apparel	105.0	106.3	108.4	108.7	110.4	110.7	110.9	111.2	111.7	112.2
Footwear	104.7	106.8	109.4	109.7	113.7	114.0	114.4	114.3	114.8	115.5
Tobacco products	132.5	142.4	154.7	157.5	166.7	166.7	166.5	166.8	166.8	175.4
Intermediate materials 2/	102.6	99.1	101.5	102.1	104.3	104.7	105.5	106.2	107.4	108.2
Materials for food manufacturing	101.4	98.4	100.8	102.7	102.0	101.6	102.8	104.2	107.0	109.9
Flour	99.8	94.5	92.9	91.5	97.6	93.9	96.8	97.3	109.7	110.0
Refined sugar 3/	102.8	103.2	106.5	107.2	107.0	106.7	107.4	107.1	106.6	108.1
Crude vegetable oils	137.5	84.8	84.0	82.3	106.7	101.7	109.9	114.1	124.2	148.6
Crude materials 4/	95.8	87.7	93.7	96.0	94.7	94.1	95.7	97.1	98.2	97.0
Foodstuffs & feedstuffs	94.8	93.2	96.2	98.4	99.7	99.8	101.2	104.5	108.4	109.9
Fruits & vegetables 5/	102.6	103.9	106.6	112.2	100.5	101.5	99.8	99.3	99.6	108.7
Grains	96.1	79.2	71.1	68.8	83.5	80.6	82.3	82.9	103.4	111.5
Livestock	89.1	91.8	101.9	107.3	105.7	106.3	107.1	111.1	105.4	99.1
Poultry, live	117.8	129.6	101.2	102.3	86.9	96.9	97.6	112.2	130.4	156.4
Fibers, plant & animal	97.4	88.3	106.5	120.1	97.8	103.2	103.6	103.7	107.6	99.4
Fluid milk	93.6	90.9	91.9	89.7	89.1	86.7	86.7	85.3	83.8	84.9
Oilseeds	94.4	91.4	99.3	103.0	111.1	112.6	121.5	127.5	153.8	152.3
Tobacco, leaf	101.2	89.7	85.8	82.7	87.2	87.2	87.2	82.0	82.0	82.0
Sugar, raw cane	104.6	104.9	110.3	111.6	111.4	111.4	111.9	111.8	112.7	118.2
All commodities	103.1	100.1	102.8	103.5	104.8	104.9	105.8	106.5	107.4	107.8
Industrial commodities	103.7	99.9	102.6	103.1	104.6	104.7	105.6	106.1	106.5	106.7
All foods 6/	103.9	105.5	107.8	109.4	108.0	108.6	108.9	110.1	111.8	113.4
Farm products & processed foods & feeds	100.6	101.2	103.7	105.2	105.3	105.8	106.5	108.1	111.3	113.0
Farm products	95.1	92.9	95.4	97.9	97.9	98.2	99.0	101.7	106.4	108.7
Processed foods & feeds 6/	103.5	105.4	107.9	109.0	109.1	109.6	110.3	111.4	113.9	115.3
Cereal & bakery products	110.2	111.0	112.6	111.9	119.6	119.8	120.2	120.3	123.0	123.9
Sugar & confectionery	107.9	109.6	112.7	113.7	112.8	113.0	113.3	113.6	113.6	115.7
Beverages	107.7	114.5	112.5	112.1	113.0	113.9	114.2	114.0	114.0	114.2

1/ Commodities ready for sale to ultimate consumer. 2/ Commodities requiring further processing to become finished goods. 3/ All types and sizes of refined sugar. 4/ Products entering market for the first time that have not been manufactured at that point. 5/ Fresh and dried. 6/ Includes all raw, intermediate, and processed foods (excludes soft drinks, alcoholic beverages, and manufactured animal feeds). R = revised.

Information contact: Bureau of Labor Statistics (202) 523-1913.

Table 8.—Farm-Retail Price Spreads

	Annual				1987	1988					
	1984	1985	1986	1987	July	Feb	Mar	Apr	May	June	July
Market basket 1/											
Retail cost (1982-84=100)	102.9	104.1	106.3	111.6	112.1	113.5	113.5	114.2	115.0	115.5	117.3
Farm value (1982-84=100)	103.5	96.2	94.9	97.1	100.6	96.0	96.3	96.5	99.1	102.4	105.1
Farm-retail spread (1982-84=100)	102.6	108.3	112.5	119.4	118.7	122.9	122.7	123.8	123.5	122.6	123.9
Farm value-retail cost (%)	35.2	32.4	31.2	30.5	31.2	29.7	29.7	29.6	30.2	31.0	31.4
Meat products											
Retail cost (1982-84=100)	99.8	98.9	102.0	109.6	111.7	110.2	110.9	110.8	111.7	113.8	113.4
Farm value (1982-84=100)	99.4	91.3	94.3	101.2	110.6	99.4	100.2	102.0	103.2	108.3	97.6
Farm-retail spread (1982-84=100)	100.3	106.7	109.8	118.3	112.8	121.3	121.9	119.9	120.4	119.4	129.6
Farm value-retail cost (%)	50.4	46.8	46.8	46.7	50.2	45.7	45.8	46.6	46.8	48.2	43.6
Dairy products											
Retail cost (1982-84=100)	101.3	103.2	103.3	105.9	105.3	107.3	107.2	107.1	107.4	107.2	107.6
Farm value (1982-84=100)	99.2	95.2	92.6	93.3	91.6	90.6	89.3	88.1	86.5	86.3	86.9
Farm-retail spread (1982-84=100)	103.2	110.5	113.3	117.5	118.0	122.7	123.7	124.6	126.7	126.5	126.7
Farm value-retail cost (%)	47.0	44.2	43.0	42.3	41.7	40.5	40.0	39.5	38.6	38.6	38.7
Poultry											
Retail cost (1982-84=100)	107.3	106.2	114.2	112.6	111.0	108.4	109.1	110.2	114.0	120.1	129.0
Farm value (1982-84=100)	112.6	105.9	115.1	93.8	92.1	83.6	88.2	89.7	105.1	114.7	135.5
Farm-retail spread (1982-84=100)	101.1	106.6	113.3	134.2	132.7	137.0	133.1	133.9	124.2	126.3	121.5
Farm value-retail cost (%)	56.2	53.3	53.9	44.6	44.4	41.3	43.3	43.5	49.4	51.1	56.2
Eggs											
Retail cost (1982-84=100)	109.1	91.0	97.2	91.5	87.8	85.5	87.9	85.0	81.8	83.6	95.1
Farm value (1982-84=100)	110.1	85.7	92.4	76.8	71.9	64.6	70.8	61.9	56.6	62.7	84.9
Farm-retail spread (1982-84=100)	107.4	100.4	106.0	117.9	116.4	123.1	118.7	126.5	127.1	121.1	113.4
Farm value-retail cost (%)	64.8	60.5	61.0	53.9	52.6	48.5	51.7	46.8	44.4	48.2	57.4
Cereal & bakery products											
Retail cost (1982-84=100)	103.9	107.9	110.9	114.8	115.2	118.7	118.9	119.8	120.3	120.8	122.1
Farm value (1982-84=100)	102.9	94.3	76.3	71.0	66.4	105.6	102.1	101.2	106.0	115.0	117.2
Farm-retail spread (1982-84=100)	104.1	109.8	115.7	120.9	122.0	120.5	121.2	122.4	122.3	121.6	122.8
Farm value-retail cost (%)	12.1	10.7	8.4	7.6	7.1	10.9	10.5	10.4	10.8	11.7	11.8
Fresh fruits											
Retail cost (1982-84=100)	106.6	118.4	120.4	135.6	138.5	133.7	135.2	141.8	149.8	142.2	150.7
Farm value (1982-84=100)	113.7	110.8	103.8	113.9	121.8	104.4	102.2	89.8	122.9	105.0	130.8
Farm-retail spread (1982-84=100)	103.3	121.8	128.0	145.7	146.2	147.2	150.5	165.8	162.2	159.4	159.9
Farm value-retail cost (%)	33.7	29.6	27.4	26.5	27.8	24.7	23.9	20.0	25.9	23.3	27.4
Fresh vegetables											
Retail costs (1982-84=100)	108.2	103.5	107.7	121.6	121.0	133.7	125.6	127.5	124.5	121.8	127.0
Farm value (1982-84=100)	108.3	93.1	90.0	112.0	111.1	100.4	97.4	104.2	89.4	93.6	106.9
Farm-retail spread (1982-84=100)	108.2	108.9	116.8	126.5	126.1	150.8	140.1	139.5	142.6	136.3	137.3
Farm value-retail cost (%)	34.0	30.5	28.4	31.3	31.2	25.5	26.3	27.7	24.4	26.1	28.6
Processed fruits & vegetables											
Retail cost (1982-84=100)	104.3	107.0	105.3	109.0	109.3	113.4	114.3	116.0	115.9	117.6	117.8
Farm value (1982-84=100)	106.8	117.7	101.5	111.1	107.0	129.3	129.6	131.4	135.8	135.7	140.0
Farm-retail spread (1982-84=100)	103.4	103.7	106.4	108.3	110.0	108.4	109.5	111.2	110.2	112.0	110.9
Farm value-retail costs (%)	24.4	26.2	22.9	24.2	23.3	27.1	27.0	26.9	27.5	27.4	28.2
Fats & oils											
Retail cost (1982-84=100)	106.6	108.9	106.5	108.1	108.4	109.5	110.3	110.3	111.2	111.5	112.6
Farm value (1982-84=100)	124.3	104.3	76.2	74.1	72.6	92.4	93.0	95.6	100.6	108.0	137.8
Farm-retail spread (1982-84=100)	100.2	110.6	117.6	120.6	121.6	116.2	116.7	115.7	115.1	112.8	103.3
Farm value-retail cost (%)	31.3	25.8	19.2	18.4	18.0	22.4	22.7	23.3	24.3	26.1	32.9

	Annual				1987	1988					
	1984	1985	1986	1987	July	Feb	Mar	Apr	May	June	July
Beef, Choice											
Retail price 2/ (cts/lb)	239.6	232.6	230.7	242.5	248.2	246.3	248.5	250.2	253.2	259.9	259.3
Net carcass value 3/ (cts)	147.6	135.2	133.1	145.3	148.8	148.3	154.0	156.7	166.2	158.2	144.6
Net farm value 4/ (cts)	140.0	126.8	124.4	137.9	139.1	143.2	148.6	152.4	158.6	148.1	137.9
Farm-retail spread (cts)	99.6	105.8	106.3	104.6	109.1	103.1	99.9	97.7	94.6	111.8	121.3
Carcass-retail spread 5/ (cts)	92.0	97.4	97.6	97.2	99.4	98.0	94.5	93.4	87.0	101.6	114.7
Farm-carcass spread 6/ (cts)	7.6	8.4	8.7	7.4	9.7	5.1	5.5	4.3	7.6	10.1	6.7
Farm value-retail price (%)	58	55	54	57	56	58	60	61	63	57	53
Pork											
Retail price 2/ (cts/lb)	162.0	162.0	178.4	188.4	193.6	183.1	183.3	182.9	183.6	187.9	187.4
Wholesale value 3/ (cts)	110.1	101.1	110.9	113.0	126.2	105.3	103.5	102.5	106.4	106.3	100.0
Net farm value 4/ (cts)	77.4	71.4	82.4	82.7	98.8	75.5	68.6	67.2	76.1	76.8	72.6
Farm-retail spread (cts)	84.6	90.6	96.0	105.7	94.8	107.6	114.7	115.7	107.5	111.1	114.8
Wholesale-retail spread 5/ (cts)	51.9	60.9	67.5	75.4	67.4	77.8	79.8	80.4	77.2	81.6	87.4
Farm-wholesale spread 6/ (cts)	32.7	29.7	28.5	30.3	27.4	29.8	34.9	35.3	30.3	29.5	27.4
Farm value-retail price (%)	48	44	46	44	51	41	37	37	41	41	39

1/ Retail costs are based on indexes of retail prices for domestically produced farm foods from the CPI-U published monthly by the Bureau of Labor Statistics. The farm value is the payment to farmers for quantity of farm product equivalent to retail unit, less allowance for byproduct. Farm values are based on prices at first point of sale and may include marketing charges such as grading and packing for some commodities. The farm-retail spread, the difference between the retail price and the farm value, represents charges for assembling, processing, transporting, and distributing these foods. 2/ Estimated weighted average price of retail cuts from pork and choice yield grade 3 beef carcasses. Retail cut prices from BLS. 3/ Value of carcass quantity (beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts; beef adjusted for value of fat and bone byproducts. 4/ Market value to producer for quantity of live animal equivalent to 1 lb. of retail cuts minus value of byproducts. 5/ Represents charges for retailing and other marketing services such as fabricating, wholesaling, and in-city transportation. 6/ Represents charges made for livestock marketing, processing, and transportation to city where consumed.

Note: Annual historical data on farm-retail price spreads may be found in Food Cost Review, 1986. AER No. 574, ERS, USDA.

Information contacts: Denis Dunham (202) 786-1870; Ron Gustafson (202) 786-1286.

Table 9.—Price Indexes of Food Marketing Costs

(See the September 1988 issue.)

Information contact: Denis Dunham (202) 786-1870

Table 10.—U.S. Meat Supply & Use

	Beg. stocks	Production 1/	Imports	Total supply	Exports	Shipments	Ending stocks	Civilian consumption Total	Civilian consumption Per capita 2/	Primary market price 3/
	Million pounds 4/								Pounds	
Beef										
1985	472	23,728	2,071	26,271	328	51	420	25,472	78.8	58.37
1986	420	24,371	2,129	26,919	521	52	412	25,935	78.4	57.75
1987	412	23,566	2,269	26,247	604	52	386	25,205	73.4	64.60
1988 F	386	23,316	2,375	26,077	626	61	375	25,015	72.2	68-70
Pork										
1985	348	14,807	1,128	16,282	128	131	289	15,733	62.0	44.77
1986	289	14,063	1,122	15,474	86	132	248	15,008	58.6	51.19
1987	248	14,374	1,195	15,817	109	124	347	15,237	59.2	51.69
1988 F	347	15,675	1,210	17,232	155	135	375	16,567	63.3	43-45
Veal										
1985	14	515	20	549	4	1	11	533	1.8	62.42
1986	11	524	27	562	5	1	7	550	1.9	60.89
1987	7	429	24	460	7	1	4	449	1.5	78.05
1988 F	4	412	26	442	9	1	5	427	1.4	89-91
Lamb and mutton										
1985	7	359	36	402	1	2	13	386	1.4	68.61
1986	13	338	41	392	2	2	13	375	1.4	70.26
1987	13	315	44	372	2	2	8	360	1.3	78.09
1988 F	8	332	58	398	1	1	9	387	1.4	66-68
Total red meat										
1985	841	39,409	3,255	43,505	461	186	733	42,125	144.1	--
1986	733	39,296	3,319	43,348	613	187	680	41,868	140.2	--
1987	680	38,684	3,533	42,897	722	179	744	41,251	135.4	--
1988 F	744	39,735	3,669	44,149	791	198	791	42,396	138.2	--
Broilers										
1985	20	13,762	0	13,781	417	143	27	13,195	55.1	50.8
1986	27	14,316	0	14,342	566	149	24	13,603	56.3	56.9
1987	24	15,594	0	15,618	752	151	25	14,691	60.3	47.4
1988 F	25	16,240	0	16,265	683	142	30	15,410	62.6	55-57
Mature chicken										
1985	119	636	0	755	21	1	144	589	2.5	--
1986	144	627	0	771	16	3	163	589	2.4	--
1987	163	650	0	814	15	2	188	608	2.5	--
1988 F	188	646	0	834	18	3	150	662	2.7	--
Turkeys										
1985	125	2,942	0	3,067	27	7	150	2,884	12.1	75.5
1986	150	3,271	0	3,422	27	4	178	3,212	13.3	72.2
1987	178	3,828	0	4,006	33	4	282	3,686	15.1	57.8
1988 F	282	3,998	0	4,281	40	4	175	4,062	16.5	62-64
Total poultry										
1985	264	17,340	0	17,604	465	151	321	16,668	69.7	--
1986	321	18,215	0	18,535	609	156	365	17,405	72.0	--
1987	365	20,072	0	20,437	800	157	495	18,985	77.9	--
1988 F	495	20,884	0	21,380	742	149	355	20,133	81.8	--
Red meat & poultry										
1985	1,105	56,749	3,255	61,109	926	337	1,054	58,793	213.7	--
1986	1,054	57,511	3,319	61,883	1,223	343	1,045	59,273	212.3	--
1987	1,045	58,756	3,533	63,334	1,522	336	1,240	60,236	213.3	--
1988 F	1,240	60,619	3,669	65,528	1,533	347	1,119	62,529	220.0	--

1/ Total including farm production for red meats and federally inspected plus nonfederally inspected for poultry. 2/ Retail weight basis. (The beef carcass-to-retail conversion factor was .74 during 1962-85. It was lowered to .73 for 1986 and to .71 for 1987 and later.) 3/ Dollars per cwt for red meat; cents per pound for poultry. Beef: Choice steers, Omaha 1,000-1,100 lb.; pork: barrows and gilts, 7 markets; veal: farm price of calves; lamb and mutton: Choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 4/ Carcass weight for red meats and certified ready-to-cook for poultry. F = forecast. -- = not available.

Information contacts: Ron Gustafson, Leland Southard, or Mark Weimar (202) 786-1285.

Table 11.—U.S. Egg Supply & Use

	Beg. stocks	Pro-duc-tion	Im-ports	Total supply	Ex-ports	Ship-ments	Hatch-ing use	Ending stocks	Consumption Total	Consumption Per capita	Wholesale price*
	Million dozen									No	Cts/doz
1984	9.3	5,708.3	32.0	5,749.5	58.2	27.8	529.7	11.1	5,122.8	259.4	80.9
1985	11.1	5,688.0	12.7	5,711.8	70.6	30.3	548.1	10.7	5,052.0	253.4	66.4
1986	10.7	5,705.0	13.7	5,729.3	101.6	28.0	566.8	10.4	5,022.5	249.5	71.1
1987	10.4	5,796.5	5.6	5,811.7	111.2	25.1	595.3	14.0	5,066.9	249.5	61.6
1988 F	14.4	5,728.5	3.5	5,746.4	129.8	22.8	606.7	10.0	4,977.1	242.6	62-64
1989 F	10.0	5,655.0	4.0	5,669.0	106.0	24.0	630.0	10.0	4,899.0	236.7	70-76

* Cartoned Grade A large eggs, New York. F = forecast.

Information contact: Robert Bishop (202) 786-1714.

Table 12.—U.S. Milk Supply & Use[1]

	Pro-duc-tion	Farm use	Commercial Farm market-ings	Commercial Beg. stocks	Im-ports	Total commer-cial supply	CCC net re-movals	Commercial Ending stocks	Commercial Disap-pear-ance	All milk price 2/
	Billion pounds									$/cwt
1981	132.8	2.3	130.5	5.8	2.3	138.5	12.9	5.4	120.3	13.77
1982	135.5	2.4	133.1	5.4	2.5	141.0	14.3	4.6	122.1	13.61
1983	139.7	2.4	137.3	4.6	2.6	144.5	16.8	5.2	122.5	13.58
1984	135.4	2.9	132.5	5.2	2.7	140.5	8.6	4.9	126.9	13.46
1985	143.1	2.5	140.7	4.9	2.8	148.4	13.2	4.6	130.6	12.75
1986	143.4	2.4	141.0	4.6	2.7	148.3	10.6	4.2	133.5	12.51
1987	142.5	2.2	140.3	4.2	2.5	146.9	6.7	4.6	135.6	12.54
1988 F	143.6	2.2	141.4	4.6	2.5	148.5	8.2	4.5	135.8	12.05

1/ Milkfat basis. Totals may not add because of rounding. 2/ Delivered to plants and dealers; does not reflect deductions. F = forecast.

Information contact: Jim Miller (202) 786-1770.

Table 13.—Poultry & Eggs

	Annual 1985	Annual 1986	Annual 1987	1987 July	1988 Feb	1988 Mar	1988 Apr	1988 May	1988 June	1988 July
Broilers										
Federally inspected slaughter, certified (mil lb)	13,569.2	14,265.6	15,502.5	1,337.9	1,289.7	1,400.4	1,313.5	1,367.3	1,398.0	1,222.8
Wholesale price, 12-city, (cts/lb)	50.8	56.9	47.4	47.0	44.9	48.4	48.7	56.6	61.5	66.5
Price of grower feed ($/ton)	197	187	224	190	198	196	181	181	179	248
Broiler-feed price ratio 1/	3.1	3.7	3.7	2.9	2.6	2.8	3.1	3.7	4.1	3.4
Stocks beginning of period (mil lb)	19.7	26.6	23.9	24.4	31.0	32.4	35.5	40.8	39.5	40.3
Broiler-type chicks hatched (mil) 2/	4,803.8	5,013.3	535.1	463.3	431.7	482.8	470.2	485.5	472.5	471.5
Turkeys										
Federally inspected slaughter, certified (mil lb)	2,800	3,133	3,717	358.8	266.9	314.0	276.6	333.3	372.4	320.0
Wholesale price, Eastern U.S., 8-16 lb. young hens (cts/lb)	75.5	72.2	57.8	56.3	47.1	47.0	46.9	49.3	57.1	70.8
Price of turkey grower feed ($/ton)	212	215	213	216	223	226	210	212	211	272
Turkey-feed price ratio 1/	4.5	4.1	3.9	3.1	2.6	2.5	2.7	2.8	3.0	2.9
Stocks beginning of period (mil lb)	125.3	150.2	178.2	381.6	299.3	335.1	353.3	384.4	422.4	467.3
Poults placed in U.S. (mil)	197.8	225.4	26.5	26.0	23.1	25.0	24.6	25.3	25.9	23.9
Eggs										
Farm production (mil)	68,256	68,459	69,558	5,790	5,607	5,976	5,691	5,770	5,518	5,677
Average number of layers (mil)	277	278	280	276	282	278	275	272	269	268
Rate of lay (eggs per layer on farms)	247	248	248	21.0	19.9	21.5	20.7	21.2	20.5	21.2
Cartoned price, New York, grade A large (cts/doz) 3/	66.4	71.1	61.6	59.1	52.7	56.4	52.1	50.9	56.8	73.7
Price of laying feed ($/ton)	182	174	170	176	177	175	175	176	176	236
Egg-feed price ratio 1/	6.3	7.0	7.6	5.7	5.3	5.8	5.2	4.9	5.2	4.9
Stocks, first of month										
Shell (mil doz)	.93	.72	1.16	.96	2.01	1.59	2.01	.42	.63	.90
Frozen (mil doz)	10.2	10.0	9.8	12.8	13.9	13.9	10.7	13.2	15.4	19.2
Replacement chicks hatched (mil)	407	424	431	33.4	28.5	34.8	35.1	35.8	33.0	24.8

1/ Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight. 2/ Placement of broiler chicks is currently reported for 12 States only; henceforth, hatch of broiler-type chicks will be used as a substitute. 3/ Price of cartoned eggs to volume buyers for delivery to retailers.

Information contact: Mark Weimar (202) 786-1714.

Table 14.—Dairy

	Annual			1987	1988					
	1985	1986	1987	July	Feb	Mar	Apr	May	June	July
Milk prices, Minnesota-Wisconsin, 3.5% fat ($/cwt) 1/	11.48	11.30	11.23	11.17	10.60	10.43	10.33	10.34	10.34	10.52
Wholesale prices										
Butter, Grade A Chi. (cts/lb)	141.1	144.5	140.2	149.0	131.0	131.0	131.0	131.0	133.5	135.9
Am. cheese, Wis. assembly pt. (cts/lb)	127.7	127.3	123.2	123.2	116.1	115.6	115.1	115.0	116.2	118.3
Nonfat dry milk, (cts/lb) 2/	84.0	80.6	79.3	79.2	73.0	73.0	73.1	73.4	74.2	77.1
USDA net removals										
Total milk equiv. (mil lb) 3/	13,174.1	10,628.1	6,706.0	157.8	1,486.5	1,091.9	1,235.8	1,226.7	550.7	248.9
Butter (mil lb)	334.2	287.6	187.3	-.2	59.7	36.1	42.7	42.4	13.1	5.2
Am. cheese (mil lb)	629.0	468.4	282.0	15.7	25.4	34.7	35.6	35.0	27.9	13.6
Nonfat dry milk (mil lb)	940.6	827.3	559.4	53.2	39.6	49.8	49.2	53.6	28.4	-.7
Milk										
Milk prod. 21 States (mil lb)	121,043	121,433	121,094	10,393	9,740	10,647	10,593	11,041	10,480	10,513
Milk per cow (lb)	13,160	13,399	13,932	1,200	1,126	1,234	1,229	1,280	1,220	1,225
Number of milk cows (thou)	9,198	9,063	8,692	8,663	8,649	8,630	8,618	8,627	8,588	8,579
U.S. milk production (mil lb)	143,147	143,381	142,462	6/12,207	6/11,493	6/12,563	6/12,482	6/13,010	6/12,348	6/12,342
Stock, beginning										
Total (mil lb)	16,704	13,695	12,867	12,724	7,628	8,462	10,787	10,457	10,535	11,149
Commercial (mil lb)	4,937	4,590	4,165	5,661	4,777	4,910	5,074	5,134	5,371	5,376
Government (mil lb)	11,767	9,105	8,702	7,063	2,852	3,552	5,712	5,323	5,164	5,772
Imports, total (mil lb) 3/	2,777	2,733	2,490	244	196	172	172	159	178	--
Commercial disappearance milk equiv. (mil lb)	130,640	133,498	135,630	12,064	9,895	11,292	11,177	11,518	11,789	--
Butter										
Production (mil lb)	1,247.8	1,202.4	1,104.1	75.2	117.1	116.3	111.7	107.9	91.7	75.9
Stocks, beginning (mil lb)	296.5	205.5	193.0	237.9	157.3	198.3	221.1	239.8	282.5	294.7
Commercial disappearance (mil lb)	918.2	922.9	902.5	78.2	52.0	73.7	76.3	57.5	84.4	--
American cheese										
Production (mil lb)	2,855.2	2,798.2	2,716.7	235.3	221.0	244.6	251.8	258.7	245.2	235.9
Stocks, beginning (mil lb)	960.5	850.2	697.1	603.0	365.7	362.0	365.4	377.0	384.0	413.0
Commercial disappearance (mil lb)	2,279.1	2,382.8	2,444.1	214.5	196.7	209.0	203.6	224.5	214.1	--
Other cheese										
Production (mil lb)	2,225.7	2,411.1	2,627.6	218.5	207.8	239.3	221.3	231.5	229.3	218.3
Stocks, beginning (mil lb)	101.4	94.1	92.0	94.3	90.0	88.4	89.0	92.7	93.4	99.4
Commercial disappearance (mil lb)	2,515.7	2,684.9	2,880.1	243.0	224.8	254.6	232.5	246.4	241.9	--
Nonfat dry milk										
Production (mil lb)	1,390.0	1,284.1	1,059.0	99.5	85.8	95.8	102.6	104.1	104.6	79.5
Stocks, beginning (mil lb)	1,247.6	1,011.1	686.8	428.7	130.7	152.2	151.1	171.4	180.5	160.4
Commercial disappearance (mil lb)	435.0	479.1	495.1	58.8	39.7	53.4	39.0	47.5	83.0	--
Frozen dessert										
Production (mil gal) 4/	1,251.0	1,248.6	1,263.4	134.5	87.6	110.4	107.9	120.1	139.0	132.0

	Annual			1986	1987				1988	
	1985	1986	1987	IV	I	II	III	IV	I	II P
Milk production (mil lb)	143,147	143,381	142,462	33,716	34,814	37,399	35,512	34,737	36,098	37,840
Milk per cow (lb)	12,994	13,260	13,786	3,199	3,340	3,617	3,453	3,375	3,509	3,691
No. of milk cows (thou)	11,016	10,813	10,334	10,541	10,424	10,339	10,283	10,291	10,286	10,252
Milk-feed price ratio 5/	1.72	1.73	1.83	1.91	1.88	1.76	1.80	1.89	1.74	1.52
Returns over concentrate 5/ costs ($/cwt milk)	9.54	9.23	9.50	10.10	9.82	8.99	9.26	9.97	9.26	8.24

1/ Manufacturing grade milk. 2/ Prices paid f.o.b. Central States production area, high heat spray process. 3/ Milk-equivalent, fat-basis. 4/ Ice cream, ice milk, and hard sherbet. 5/ Based on average milk price after adjustment for price-support deductions. 6/ Estimated. -- = not available. P = preliminary.

Information contact: Jim Miller (202) 786-1770.

Table 15.—Wool

	Annual			1987	1988					
	1985	1986	1987	July	Feb	Mar	Apr	May	June	July
U.S. wool price, Boston 1/ (cts/lb)	192	191	265	270	397	435	453	463	460	450
Imported wool price, Boston 2/ (cts/lb)	197	201	247	243	330	370	441	423	378	364
U.S. mill consumption, scoured										
Apparel wool (thou lb)	106,051	126,768	129,677	9,002	10,103	13,514	10,138	9,601	13,598	9,946
Carpet wool (thou lb)	10,562	9,960	13,092	1,162	1,418	1,786	1,344	1,282	1,241	1,089

1/ Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.60-22.04 microns) staple 2-3/4'' and up. 2/ Wool price delivered at U.S. mills, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10.0 cents.

Information contact: John Lawler (202) 786-1840.

Table 16.—Meat Animals

	Annual			1987	1988					
	1985	1986	1987	July	Feb	Mar	Apr	May	June	July
Cattle on feed (7 States)										
Number on feed (thou head) 1/	8,635	7,920	7,643	7,193	7,856	7,572	7,726	7,504	7,814	7,421
Placed on feed (thou head)	19,346	20,035	21,020	1,274	1,369	1,833	1,531	2,170	1,367	1,246
Marketings (thou head)	18,989	19,263	19,390	1,703	1,527	1,573	1,614	1,719	1,692	1,765
Other disappearance (thou head)	1,132	1,049	1,207	71	126	106	139	141	68	62
Beef steer-corn price ratio, Omaha 2/	23.3	31.0	41.0	41.0	37.4	38.4	39.3	38.6	27.9	24.5
Hog-corn price ratio, Omaha 2/	17.8	27.8	32.8	38.4	25.7	23.0	22.5	24.3	18.9	16.8
Market prices ($/cwt)										
Slaughter cattle										
Choice steers, Omaha	58.37	57.75	64.60	65.80	68.31	71.53	72.71	75.15	70.58	65.96
Utility cows, Omaha	38.32	37.19	44.83	40.36	49.55	49.83	49.41	48.79	42.68	45.39
Choice vealers, S. St. Paul	58.28	59.92	78.74	77.50	87.50	87.50	96.41	97.66	100.88	77.50
Feeder cattle										
Choice, Kansas City, 600-700 lb.	64.56	62.79	75.36	76.20	83.53	85.20	86.50	82.88	77.38	79.08
Slaughter hogs										
Barrows & gilts, 7-markets	44.77	51.19	51.69	61.85	47.01	42.79	42.10	47.55	48.06	45.57
Feeder pigs										
S. Mo. 40-50 lb. (per head)	37.20	45.62	46.69	45.60	44.80	48.65	52.16	46.85	31.40	25.57
Slaughter sheep & lambs										
Lambs, Choice, San Angelo	68.61	69.46	78.08	76.83	77.25	83.75	76.50	72.67	59.38	59.67
Ewes, Good, San Angelo	34.02	34.78	38.62	36.62	38.25	41.17	40.17	36.38	36.30	37.83
Feeder lambs										
Choice, San Angelo	85.91	73.14	102.26	98.75	112.63	111.30	100.25	90.63	77.80	79.67
Wholesale meat prices, Midwest										
Choice steer beef, 600-700 lb.	90.76	88.98	97.21	99.29	99.50	103.47	105.25	111.70	106.38	97.09
Canner & cutter cow beef	74.13	71.31	83.70	84.51	92.18	90.33	89.69	89.88	81.28	85.74
Pork loins, 8-14 lb. 3/	91.51	104.78	106.23	121.73	94.93	87.82	94.03	112.75	111.31	104.96
Pork bellies, 12-14 lb.	59.50	65.82	63.11	83.62	48.40	45.32	43.13	46.09	45.51	40.84
Hams, skinned, 14-17 lb.	67.50	80.01	80.96	79.93	76.67	78.35	68.27	67.70	66.51	65.90
All fresh beef retail price 4/	--	--	212.64	213.86	217.58	219.97	219.68	221.54	227.18	226.07
Commercial slaughter (thou head)*										
Cattle	36,293	37,288	35,647	3,099	2,758	2,896	2,784	2,908	3,067	2,982
Steers	16,912	17,516	17,443	1,562	1,400	1,436	1,448	1,509	1,548	1,494
Heifers	11,237	11,097	10,906	916	815	894	823	850	913	927
Cows	7,391	7,960	6,610	561	495	512	462	494	548	512
Bulls & stags	758	715	689	60	48	54	51	55	58	49
Calves	3,385	3,408	2,815	231	210	223	176	179	212	215
Sheep & lambs	6,165	5,635	5,200	426	416	548	404	427	428	405
Hogs	84,492	79,598	81,081	6,188	6,682	7,680	7,090	6,881	6,898	6,365
Commercial production (mil lb)										
Beef	23,557	24,213	23,405	2,017	1,828	1,925	1,842	1,918	2,024	1,982
Veal	499	509	416	34	32	33	28	30	34	31
Lamb & mutton	352	331	309	25	26	35	26	27	27	24
Pork	14,728	13,988	14,312	1,082	1,183	1,360	1,263	1,231	1,232	1,133

	Annual			1987				1988		
	1985	1986	1987	I	II	III	IV	I	II	III
Cattle on feed (13 States)										
Number on feed (thou head) 1/	10,653	9,754	9,245	9,245	8,807	8,666	8,992	9,769	9,365	8,991
Placed on feed (thou head)	23,366	23,583	24,874	5,680	5,906	6,590	6,698	5,796	5,898	--
Marketings (thou head)	22,887	22,856	22,971	5,747	5,619	6,022	5,583	5,810	5,854	6/6,219
Other disappearance (thou head)	1,378	1,236	1,379	371	428	242	338	390	418	--
Hogs & pigs (10 States) 5/										
Inventory (thou head) 1/	42,420	41,100	39,690	39,690	38,370	40,880	43,075	42,845	41,145	44,040
Breeding (thou head) 1/	5,348	5,258	5,110	5,110	5,215	5,325	5,300	5,465	5,500	5,625
Market (thou head) 1/	37,072	35,842	34,580	34,580	33,155	35,555	37,775	37,380	35,645	38,415
Farrowings (thou head)	8,831	8,223	8,783	1,916	2,352	2,257	2,259	2,103	2,552	6/2,393
Pig crop (thou head)	67,648	63,835	68,417	14,840	18,601	17,481	17,503	16,331	19,968	--

1/ Beginning of period. 2/ Bushels of corn equal in value to 100 pounds live weight. 3/ Beginning January 1984 prices are for 14-17 lb.; January 1986 prices are for 14-18 lb. 4/ New series estimating the composite price of all beef grades and ground beef sold by retail stores. This new series in addition to, but does not replace, the series for the retail price of Choice beef that appears in table 8. 5/ Quarters are Dec. of preceding year-Feb. (I), Mar.-May (II), June-Aug. (III), and Sept.-Nov. (IV). 6/ Intentions. *Classes estimated. -- = not available.

Information contacts: Ron Gustafson or Leland Southard (202) 786-1285.

Table 17.—Supply & Utilization[1,2]

	Area: Set aside 3/	Area: Planted	Area: Harvested	Yield	Production	Total supply 4/	Feed and residual	Other domestic use	Exports	Total use	Ending stocks	Farm price 5/
	Mil acres			Bu/acre	Mil bu							$/bu
Wheat												
1983/84	30.0	76.4	61.4	39.4	2,420	3,939	369	742	1,429	2,540	1,399	3.51
1984/85	18.3	79.2	66.9	38.8	2,595	4,003	405	749	1,424	2,578	1,425	3.39
1985/86	18.8	75.6	64.7	37.5	2,425	3,866	279	767	915	1,961	1,905	3.08
1986/87*	20.2	72.1	60.7	34.4	2,092	4,018	413	780	1,004	2,197	1,821	2.42
1987/88*	27.9	65.8	55.9	37.6	2,105	3,941	300	805	1,600	2,705	1,236	2.57
1988/89*	26.5	65.9	52.9	34.2	1,810	3,091	270	835	1,450	2,555	536	3.55-3.95
	Mil acres			Lb/acre	Mil cwt (rough equiv.)							$/cwt
Rice												
1983/84	1.74	2.19	2.17	4,598	99.7	172.1	--	6/54.9	70.3	125.0	46.9	8.57
1984/85	.79	2.83	2.80	4,954	138.8	187.3	--	6/60.5	62.1	122.6	64.7	8.04
1985/86	1.24	2.51	2.49	5,414	134.9	201.8	--	6/65.8	58.7	124.5	77.3	6.53
1986/87*	1.27	2.38	2.36	5,651	133.4	213.3	--	6/76.3	85.4	161.7	51.6	3.75
1987/88*	1.26	2.35	2.33	5,482	127.7	182.3	--	6/80.8	70.0	150.8	31.5	6.95
1988/89*	.80	2.88	2.86	5,332	152.3	186.9	--	6/83.5	75.0	158.5	28.4	5.00-7.00
	Mil acres			Bu/acre	Mil bu							$/bu
Corn												
1983/84	32.2	60.2	51.5	81.1	4,175	7,700	3,818	975	1,901	6,694	1,006	3.21
1984/85	3.9	80.5	71.9	106.7	7,674	8,684	4,079	1,091	1,865	7,036	1,648	2.63
1985/86	5.4	83.4	75.2	118.0	8,877	10,536	4,095	1,160	1,241	6,496	4,040	2.23
1986/87*	12.7	76.7	69.2	119.3	8,250	12,291	4,714	1,192	1,504	7,410	4,882	1.50
1987/88*	21.6	65.7	59.2	119.4	7,064	11,948	4,650	1,236	1,700	7,586	4,365	1.90-2.00
1988/89*	21.3	67.5	56.8	78.5	4,462	8,819	4,400	1,210	1,650	7,260	1,559	2.30-2.70
	Mil acres			Bu/acre	Mil bu							$/bu
Sorghum												
1983/84	5.7	11.9	10.0	48.7	488	927	385	10	245	640	287	2.74
1984/85	.6	17.3	15.4	56.4	866	1,154	539	18	297	854	300	2.32
1985/86	.9	18.3	16.8	66.8	1,120	1,420	664	28	178	869	551	1.93
1986/87*	2.3	15.3	13.9	67.7	938	1,489	533	15	198	746	743	1.37
1987/88*	4.1	11.8	10.6	69.9	741	1,484	520	14	225	759	725	1.60-1.70
1988/89*	3.8	10.5	9.0	59.9	540	1,265	500	15	200	715	550	2.10-2.50
	Mil acres			Bu/acre	Mil bu							$/bu
Barley												
1983/84	1.1	10.4	9.7	52.3	509	733	282	170	92	544	189	2.47
1984/85	.5	12.0	11.2	53.4	599	799	304	170	77	551	247	2.29
1985/86	.7	13.2	11.6	51.0	591	848	333	169	22	523	325	1.98
1986/87*	1.8	13.1	12.0	50.8	611	942	296	174	137	606	336	1.61
1987/88*	2.9	11.0	10.0	52.6	527	877	251	174	131	555	321	1.81
1988/89*	2.8	9.7	7.4	38.8	287	628	240	175	50	465	163	2.50-2.90
	Mil acres			Bu/acre	Mil bu							$/bu
Oats												
1983/84	.3	20.3	9.1	52.6	477	727	466	78	2	546	181	1.62
1984/85	.1	12.4	8.2	58.0	474	689	433	74	1	509	180	1.67
1985/86	.1	13.3	8.2	63.7	521	728	460	82	2	544	184	1.23
1986/87*	.4	14.7	6.9	56.3	386	603	395	73	3	471	133	1.21
1987/88*	.8	18.0	6.9	54.0	374	552	359	79	1	440	112	1.56
1988/89*	.2	14.0	5.4	38.4	206	378	215	86	1	302	76	2.50-3.00
	Mil acres			Bu/acre	Mil bu							$/bu
Soybeans												
1983/84	0	63.8	62.5	26.2	1,636	1,981	7/79	983	743	1,805	176	7.83
1984/85	0	67.8	66.1	28.1	1,861	2,037	7/93	1,030	598	1,721	316	5.84
1985/86	0	63.1	61.6	34.1	2,099	2,415	7/86	1,053	740	1,879	536	5.05
1986/87*	0	60.4	58.3	33.3	1,940	2,476	7/104	1,179	757	2,040	436	4.78
1987/88*	0	57.4	56.4	33.7	1,905	2,341	7/96	1,180	785	2,060	280	6.15
1988/89*	0	58.8	56.8	25.9	1,472	1,752	7/92	1,010	550	1,652	100	7.25-9.75
					Mil lbs							8/ Cts/lb
Soybean oil												
1983/84	--	--	--	--	10,872	12,133	--	9,588	1,824	11,412	721	30.60
1984/85	--	--	--	--	11,468	12,209	--	9,917	1,660	11,577	632	29.50
1985/86	--	--	--	--	11,617	12,257	--	10,053	1,257	11,310	947	18.00
1986/87*	--	--	--	--	12,783	13,745	--	10,833	1,187	12,020	1,725	15.40
1987/88*	--	--	--	--	12,928	14,805	--	10,900	2,050	12,950	1,855	22.50
1988/89*	--	--	--	--	11,201	13,100	--	10,900	1,250	12,150	950	24.00-29.00
					Thou tons							9/ $/ton
Soybean meal												
1983/84	--	--	--	--	22,756	23,230	--	17,615	5,360	22,975	255	188
1984/85	--	--	--	--	24,529	24,784	--	19,480	4,917	24,397	387	125
1985/86	--	--	--	--	24,951	25,338	--	19,090	6,036	25,126	212	155
1986/87*	--	--	--	--	27,758	27,970	--	20,387	7,343	27,730	240	163
1987/88*	--	--	--	--	28,010	28,250	--	21,300	6,650	27,950	300	225
1988/89*	--	--	--	--	24,000	24,300	--	19,500	4,500	24,000	300	235-285

See footnotes at end of table.

Table 17.—Supply & Utilization, continued

	Area: Set aside 3/	Area: Planted	Area: Harvested	Yield	Production	Total supply 4/	Feed and residual	Other domestic use	Exports	Total use	Ending stocks	Farm price 5/
	Mil acres			Lb/acre	Mil bales							Cts/lb
Cotton 10/												
1983/84	6.8	7.9	7.3	508	7.8	15.7	--	5.9	6.8	12.7	2.8	65.30
1984/85	2.5	11.1	10.4	600	13.0	15.8	--	5.5	6.2	11.8	4.1	58.70
1985/86	3.6	10.7	10.2	630	13.4	17.6	--	6.4	2.0	8.4	9.4	56.50
1986/87*	3.4	10.0	8.5	552	9.7	19.1	--	7.4	6.7	14.1	5.0	52.40
1987/88*	3.3	10.4	10.0	706	14.8	19.8	--	7.7	6.6	14.3	5.6	64.20
1988/89*	--	12.2	11.7	605	14.7	20.3	--	6.9	5.3	12.2	8.2	--

*September 12, 1988 Supply and Demand Estimates. 1/ Marketing year beginning June 1 for wheat, barley, and oats, August 1 for cotton and rice, September 1 for soybeans, corn, and sorghum, October 1 for soymeal, and soyoil. 2/ Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt. of rice, and 4.59 480-pound bales of cotton. 3/ Includes diversion, PIK, and acreage reduction programs. 4/ Includes imports. 5/ Market average prices do not include an allowance for loans outstanding and Government purchases. 6/ Residual included in domestic use. 7/ Includes seed. 8/ Average of crude soybean oil, Decatur. 9/ Average of 44 percent, Decatur. 10/ Upland and extra long staple. Stock estimates based on Census Bureau data which results in an unaccounted difference between supply and use estimates and changes in ending stocks. -- = not available.

Information contact: Commodity Economics Division, Crops Branch (202) 786-1840.

Table 18.—Food Grains

	Marketing year 1/				1987	1988				
	1983/84	1984/85	1985/86	1986/87	July	Mar	Apr	May	June	July
Wholesale prices										
Wheat, No. 1 HRW, Kansas City ($/bu) 2/	3.84	3.74	3.28	2.72	2.59	3.10	3.14	3.20	3.79	3.79
Wheat, DNS, Minneapolis ($/bu) 2/	4.21	3.70	3.25	2.62	2.52	3.05	3.19	3.30	4.17	3.96
Rice, S.W. La. ($/cwt) 3/	19.38	17.98	16.11	10.25	10.50	24.50	24.00	20.75	18.85	17.90
Wheat										
Exports (mil bu)	1,429	1,424	915	1,004	166	151	156	154	129	120
Mill grind (mil bu)	701	676	703	755	65	60	58	65	63	--
Wheat flour production (mil cwt)	308	301	314	335	27	26	26	29	28	28
Rice										
Exports (mil cwt, rough equiv)	70.3	62.1	58.7	85.4	10.6	5.9	5.0	7.3	4.0	--

	Marketing year 1/			1987				1988		
	1984/85	1985/86	1986/87	Dec-Feb	Mar-May	Jun-Aug	Sept-Nov	Dec-Feb	Mar-May	Jun-Aug
Wheat										
Stocks, beginning (mil bu)	1,399	1,425	1,905	2,673.5	2,250.4	1,820.9	2,988.5	2,505.3	1,923.4	1,266.2
Domestic use										
Food (mil bu)	651	674	696	166.8	174.3	179.3	191.1	168.6	180.0	--
Seed, feed & residual (mil bu) 4/	502	372	497	59.5	45.7	353.5	-11.4	2.9	20.1	--
Exports (mil bu)	1,424	915	1,004	202.7	216.8	409.9	308.5	413.1	460.6	--

1/ Beginning June 1 for wheat and August 1 for rice. 2/ Ordinary protein. 3/ Long-grain, milled basis. 4/ Residual includes feed use. -- = not available.

Information contacts: Ed Allen and Janet Livezey (202) 786-1840.

Table 19.—Cotton

	Marketing year 1/				1987	1988				
	1983/84	1984/85	1985/86	1986/87	July	Mar	Apr	May	June	July
U.S. price, SLM, 1-1/16 in. (cts/lb) 2/	73.1	60.5	60.0	53.2	73.1	59.6	60.1	61.6	62.9	57.4
Northern Europe prices										
Index (cts/lb) 3/	87.6	69.2	48.9	62.0	83.2	66.3	65.8	65.6	68.8	68.2
U.S. M 1-3/32 in. (cts/lb) 4/	87.1	73.9	64.8	61.8	81.8	70.8	72.4	75.3	80.0	76.6
U.S. mill consumption (thou bales)	5,927	5,545	6,399	7,452	656	706	610	630	600	469
Exports (thou bales)	6,786	6,201	1,969	6,684	575	779	571	517	554	327
Stocks, beginning (thou bales)	7,937	2,775	4,102	9,348	6,176	11,292	9,807	8,626	7,479	6,340

1/ Beginning August 1. 2/ Average spot market. 3/ Liverpool Outlook (A) index; average of 5 lowest priced of 11 selected growths. 4/ Memphis territory growths.

Information contact: Bob Skinner (202) 786-1840.

Table 20.—Feed Grains

	Marketing year 1/				1987	1988				
	1983/84	1984/85	1985/86	1986/87	July	Mar	Apr	May	June	July
Wholesale prices										
Corn, No. 2 yellow, Chicago ($/bu)	3.46	2.79	2.35	1.64	1.68	2.03	2.03	2.09	2.74	2.80
Sorghum, No. 2 yellow, Kansas City ($/cwt)	5.22	4.46	3.72	2.73	3.30	3.27	3.16	3.21	4.58	4.79
Barley, feed, Duluth ($/bu) 2/	2.48	2.09	1.53	1.44	1.59	1.88	1.94	1.98	2.41	2.31
Barley, malting, Minneapolis ($/bu)	2.84	2.55	2.24	1.89	1.93	2.08	2.11	2.24	3.61	3.87
Exports										
Corn (mil bu)	1,902	1,865	1,241	1,504	134.9	165.3	167.3	181.2	133.8	--
Feed grains (mil metric tons) 3/	56.5	56.6	36.6	46.3	4.0	5.2	5.2	5.3	--	--

	Marketing year 1/				1987			1988		
	1983/84	1984/85	1985/86	1986/87	Mar-May	Jun-Aug	Sept-Nov	Dec-Feb	Mar-May	Jun-Aug
Corn										
Stocks, beginning (mil bu)	3,523	1,006	1,648	4,040	8,248	6,332	4,882	9,769	7,635	5,830
Domestic use										
Feed (mil bu)	3,818	4,079	4,095	4,717	1,091	768	1,488	1,444	960	--
Food, seed, ind. (mil bu)	975	1,091	1,160	1,191	325	315	292	282	330	--
Exports (mil bu)	1,902	1,865	1,241	1,504	500	368	398	408	514	--
Total use (mil bu)	6,694	7,036	6,496	7,410	1,917	1,451	2,178	2,134	1,804	--

1/ September 1 for corn and sorghum; June 1 for oats and barley. 2/ Beginning March 1987 reporting point changed from Minneapolis to Duluth. 3/ Aggregated data for corn, sorghum, oats, and barley. -- = not available.

Information contact: James Cole (202) 786-1840.

Table 21.—Fats & Oils

	Marketing year 1/				1987	1988				
	1983/84	1984/85	1985/86	1986/87	June	Feb	Mar	Apr	May	June
Soybeans										
Wholesale price, No. 1 yellow, Chicago ($/bu) 2/	7.78	5.88	5.20	5.03	5.56	6.14	6.24	6.64	7.29	9.11
Crushings (mil bu)	982.7	1,030.5	1,052.8	1,178.8	90.6	99.8	107.6	102.6	98.0	89.2
Exports (mil bu)	742.8	600.7	740.7	756.9	37.9	97.0	74.8	65.1	39.7	29.3
Stocks, beginning (mil bu)	344.6	175.7	316.0	536.0	72.9	141.8	139.3	133.8	113.9	95.4
Soybean oil										
Wholesale price, crude, Decatur (cts/lb)	30.55	29.52	18.02	15.36	15.96	20.94	20.22	21.67	26.55	27.68
Production (mil lb)	10,862.8	11,467.9	11,617.3	12,783.1	980.9	1,091.8	1,186.9	1,132.7	1,087.5	995.8
Domestic disap. (mil lb)	9,589.6	9,888.5	10,045.9	10,820.1	973.2	962.9	809.3	1,002.5	763.7	943.9
Exports (mil lb)	1,813.7	1,659.9	1,257.3	1,184.5	85.0	281.0	273.7	87.7	138.6	269.0
Stocks, beginning (mil lb)	1,260.9	720.5	632.5	946.6	2,416.0	2,390.9	2,238.9	2,342.8	2,385.2	2,570.4
Soybean meal										
Wholesale price, 44% protein, Decatur ($/ton)	188.21	125.46	154.88	162.61	185.80	183.00	191.80	200.40	223.50	287.80
Production (thou ton)	22,756.2	24,529.9	24,951.3	27,758.8	2,134.9	2,377.1	2,572.8	2,449.9	2,339.9	2,127.6
Domestic disap. (thou ton)	17,538.8	19,481.3	19,117.2	20,387.4	1,739.5	1,475.8	1,649.4	1,654.9	1,667.1	1,722.0
Exports (thou ton)	5,436.1	4,916.5	6,009.3	7,343.0	455.8	986.9	984.7	739.1	716.7	366.8
Stocks, beginning (thou ton)	474.1	255.4	386.9	211.7	321.7	390.4	304.9	243.7	299.5	255.6
Margarine, wholesale price, Chicago, white (cts/lb)	46.3	55.5	51.2	40.3	39.50	46.00	45.80	47.19	49.00	52.06

1/ Beginning September 1 for soybeans; October 1 for soymeal and oil; calendar year for margarine. 2/ Beginning April 1, 1982, prices based on 30-day delivery, using upper end of the range.

Information contacts: Roger Hoskin (202) 786-1840; Tom Bickerton (202) 786-1824.

Table 22.—Farm Programs, Price Supports, Participation & Payment Rates

	Target price	Loan rate	Findley loan rate	Payment rates: Deficiency	Payment rates: Paid land diversion	Payment rates: PIK	Base acres	Program 1/	Participation rate 2/
			$/bu			Percent 3/	Mil acres		Percent of base
Wheat									
1983/84	4.30	3.65		.65	2.70	95	90.9	15/5/10-30	78/78/51
1984/85	4.38	3.30		1.00	2.70	85	94.0	20/10/10-20	60/60/20
1985/86	4.38	3.30		1.08	2.70		94.0	20/10/0	73
1986/87 4/	4.38	3.00	2.40	1.98	2.00	1.10	92.2	22.5/2.5/5-10	85/85/21
1987/88	4.38	2.85	2.28	1.78			91.6	27.5/0/0	87
1988/89	4.23	2.76	2.21	1.53				27.5/0/0	
1989/90								10/0/0	
			$/cwt						
Rice									
1983/84	11.40	8.14		2.77	2.70	80	3.95	15/5/10-30	98/98/87
1984/85	11.90	8.00		3.76			4.16	25/0/0	85
1985/86	11.90	8.00	5/3.16	3.90	3.50		4.23	20/15/0	89
1986/87 4/	11.90	7.20	5/3.82	4.70			4.20	35/0/0	92
1987/88	11.66	6.84	5/5.75	4.82			4.20	35/0/0	97
1988/89	11.15	6.63	5/7.00	1.65			4.22	25/0/0	85
			$/bu						
Corn									
1983/84	2.86	2.65		0	1.50	80	82.6	10/10/10-30	71/71/60
1984/85	3.03	2.55		.43			80.8	10/0/0	54
1985/86	3.03	2.55		.48			84.2	10/0/0	69
1986/87 4/	3.03	2.40	1.92	1.11	.73		81.9	17.5/2.5/0	85
1987/88	3.03	2.28	1.82	1.21	2.00		83.3	20/15/0	88/55
1988/89	2.93	2.21	1.77	1.10	1.75			20/10/0; 0/92	
			$/bu						
Sorghum									
1983/84	2.72	2.52		0	1.50	80	18.0	6/[same]	72/72/53
1984/85	2.88	2.42		.46			18.2		42
1985/86	2.88	2.42		.46			19.3		55
1986/87 4/	2.88	2.28	1.82	1.06	.65		18.7		75
1987/88	2.88	2.18	1.74	1.14	1.90		18.1		83/42
1988/89	2.78	2.10	1.68	1.08	1.65				
			$/bu						
Barley									
1983/84	2.60	2.16		.21	1.00		11.0	6/[same]	55/55/0
1984/85	2.60	2.08		.26			11.6		44
1985/86	2.60	2.08		.52			13.3		57
1986/87 4/	2.60	1.95	1.56	1.04	.57		12.4		73
1987/88	2.60	1.86	1.49	1.11	1.60		12.9		82/23
1988/89	2.51	1.80	1.44	.76	1.40				
			$/bu						
Oats									
1983/84	1.60	1.36		.11	.75		9.8	6/[same]	20/20/0
1984/85	1.60	1.31		0			9.8		14
1985/86	1.60	1.31		.29			9.4		14
1986/87 4/	1.60	1.24	.99	.50	.36		9.5		37
1987/88	1.60	1.18	.94	.55	.80		8.7		44/15
1988/89	1.55	1.13	.90	.30				5/0/0; 0/92	
			$/bu						
Soybeans 7/									
1983/84		5.02							
1984/85		5.02							
1985/86		5.02							
1986/87 4/		4.77							
1987/88		4.77							
1988/89									
			Cts/lb						
Upland cotton									
1983/84	76.0	55.00		12.10	25.00	85	15.4	20/5/10-30	93/93/77
1984/85	81.0	55.00		18.60			15.6	25/0/0	70
1985/86	81.0	57.30		23.70	30.00		15.8	20/10/0	82/0/0
1986/87 4/	81.0	55.00	8/44.00	26.00			15.5	25/0/0	93
1987/88	79.4	52.25	9/	17.3			14.5	25/0/0	92
1988/89	75.9	51.80		16.00			14.6	12.5/0/0	88

1/ Percentage of base acres that farmers participating in Acreage Reduction Programs/Paid Land Diversion/PIK were required to devote to conserving uses to receive program benefits. In addition to the percentages shown for 1983/84, farmers had the option of submitting bids to retire their entire base acreages. 2/ Percentage of base acres enrolled in Acreage Reduction Programs/Paid Land Diversion/PIK. 3/ Percent of program yield, except 1986/87 wheat, which is dollars per bushel. 1983 and 1984 PIK rates apply only to the 10-30 and 10-20 portions, respectively. 4/ Payment rates for payments received in cash were reduced by 4.3 percent in 1986/87 due to Gramm-Rudman-Hollings. 5/ Annual average world market price. 6/ The sorghum, oats, and barley programs were the same as for corn each year except 1983/84, when PIK was not offered on barley and oats, and in 1988 for oats. 7/ There are no target prices, acreage programs, or payment rates for soybeans. 8/ Loan repayment rate. 9/ Loans may be repaid at the lower of the loan rate or world market prices.

Information contact: James Cole (202) 786-1840.

Table 23.—Fruit

	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987 P
Citrus 1/												
Production (thou ton)	15,242	14,255	13,329	16,484	15,105	12,057	13,608	10,792	10,488	11,014	11,952	12,679
Per capita consumption (lbs) 2/	117.1	115.1	107.5	108.4	112.6	104.4	109.3	119.9	102.9	109.1	118.0	114.9
Noncitrus 3/												
Production (thou tons)	11,846	12,274	12,460	13,689	15,152	12,961	14,217	14,154	14,292	14,189	13,917	15,949
Per capita consumption (lbs) 2/	84.1	84.5	83.0	85.7	87.3	88.0	89.0	88.9	93.7	92.3	95.7	101.9

	1987					1988						
	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
F.o.b. shipping point prices												
Apples ($/carton) 4/	11.60	--	7.93	7.83	8.98	7.75	11.50	11.08	10.96	10.98	14.21	23.87
Pears ($/box) 5/	--	--	12.00	10.82	9.70	9.26	11.18	8.94	12.88	15.14	17.50	--
Oranges ($/box) 6/	6.18	6.01	7.36	10.23	5.45	6.19	6.24	5.99	6.42	7.87	7.76	4.11
Grapefruit ($/box) 6/	5.95	5.07	5.07	6.81	5.84	5.34	5.25	4.86	4.50	3.96	2.89	4.74
Stocks, ending												
Fresh apples (mil lbs)	4.2	2,687.1	5,390.2	4,697.2	3,311.6	3,158.9	2,417.4	1,584.1	1,092.7	552.2	248.1	95.0
Fresh pears (mil lbs)	195.2	507.1	425.8	338.8	279.4	198.4	148.4	99.7	49.2	17.9	2.7	--
Frozen fruits (mil lbs)	908.3	908.7	957.9	943.1	858.2	790.4	720.1	634.6	593.3	548.5	657.3	844.6
Frozen orange juice (mil lbs)	792.6	840.0	652.8	569.0	662.4	980.4	1,073.1	1,004.1	1,018.7	1,120.1	1,154.7	1,006.1

1/ Crop year beginning with year indicated. 2/ Per capita consumption for total U.S. population, including military consumption of both fresh and processed fruit in fresh weight equivalent. 3/ Calendar year. 4/ Red Delicious, Washington, extra fancy, carton tray pack, 80-113's. 5/ D'Anjou, Washington, standard box wrapped, U.S. No. 1, 90-135's. 6/ U.S. equivalent on-tree returns. P = preliminary. -- = not available.

Information contact: Ben Huang (202) 786-1885.

Table 24.—Vegetables

	Calendar year									
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Production										
Total vegetables (1,000 cwt) 1/	382,165	413,925	381,370	379,123	431,515	403,320	457,392	453,769	445,436	463,888
Fresh (1,000 cwt) 1/ 2/	182,563	190,859	190,228	194,694	207,924	197,919	217,132	217,932	216,267	219,598
Processed (tons) 3/	9,980,100	11,153,300	9,557,100	9,221,460	11,179,590	10,270,050	12,013,020	11,791,860	11,616,560	12,214,490
Mushrooms (1,000 lbs)	454,007	470,069	469,576	517,146	490,826	561,531	595,681	587,956	614,393	631,690
Potatoes (1,000 cwt)	366,314	342,447	302,857	338,591	355,131	333,911	362,612	407,109	361,511	385,774
Sweetpotatoes (1,000 cwt)	13,115	13,370	10,953	12,799	14,833	12,083	12,986	14,853	12,674	12,103
Dry edible beans (1,000 cwt)	18,935	20,552	26,729	32,751	25,563	15,520	21,070	22,175	22,886	26,309

	1987						1988						
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July
Shipments													
Fresh (1,000 cwt) 4/	23,791	17,075	20,213	16,104	15,445	18,964	17,690	23,141	18,271	18,927	26,488	36,998	21,645
Potatoes (1,000 cwt)	7,631	8,514	11,384	9,718	11,021	10,685	11,759	12,702	8,890	14,970	12,356	12,818	7,337
Sweetpotatoes (1,000 cwt)	34	136	322	359	795	518	354	343	366	218	174	35	42

1/ 1983 data are not comparable with 1984 and 1985. 2/ Estimate reinstated for asparagus with the 1984 crop; all other years also include broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, and tomatoes. 3/ Estimates reinstated for cucumbers with the 1984 crop; all other years also include snap beans, sweet corn, green peas, and tomatoes. 4/ Includes snap beans, broccoli, cabbage, carrots, cauliflower, celery, sweet corn, cucumbers, eggplant, lettuce, onions, bell peppers, squash, tomatoes, cantaloupes, honeydews, and watermelons. -- = not available.

Information contacts: Shannon Hamm or Cathy Greene (202) 786-1884.

Table 25.—Other Commodities

	Annual					1987			1988	
	1983	1984	1985	1986	1987	Apr-June	July-Sept	Oct-Dec	Jan-Mar	Apr-June
Sugar										
Production 1/	5,682	5,890	5,969	6,257	7,278	766	866	3,622	2,079	774
Deliveries 1/	8,812	8,454	8,035	7,786	8,167	2,001	2,146	2,112	1,951	1,983
Stocks, ending 1/	2,570	3,005	3,126	3,227	965	2,476	1,497	965	3,567	2,467
Coffee										
Composite green price N.Y. (cts/lb)	131.51	142.95	137.46	185.18	109.14	105.91	99.16	116.12	121.98	121.44 P
Imports, green bean equiv. (mil lbs) 2/	2,259	2,411	2,550	2,596	2,638	790	645	640	585	450 P

	Annual			1987	1988					
	1985	1986	1987 P	June	Jan	Feb	Mar	Apr	May	June
Tobacco										
Prices at auctions 3/										
Flue-cured ($/lb)	1.72	1.52	--	NQ	NQ	NQ	NQ	NQ	NQ	NQ
Burley ($/lb)	1.59	1.57	--	NQ	1.51	1.51	NQ	NQ	NQ	NQ
Domestic consumption 4/										
Cigarettes (bil)	594.0	584.0	577.0	61.8	32.4	46.1	52.3	44.8	51.6	52.7
Large cigars (mil)	3,226	3,090	2,757	290.7	151.4	192.6	223.9	196.3	224.4	260.4

1/ 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2/ Net imports of green and processed coffee. 3/ Crop year July-June for flue-cured, October-September for burley. 4/ Taxable removals. P = preliminary. -- = not available. NQ = no quote.

Information contacts: (sugar) Peter Buzzanell (202) 786-1888; (coffee) Fred Gray (202) 786-1888; (tobacco) Verner Grise (202) 786-1890.

Table 26.—World Supply & Utilization of Major Crops, Livestock, & Products

	1982/83	1983/84	1984/85	1985/86	1986/87	1987/88 P	1988/89 F
				Million units			
Wheat							
Area (hectare)	237.3	228.8	231.0	229.3	228.0	219.8	219.5
Production (metric ton)	477.3	489.3	511.8	499.8	529.7	504.3	504.6
Exports (metric ton) 1/	98.7	102.0	107.0	85.0	90.7	104.7	93.7
Consumption (metric ton) 2/	460.1	474.1	492.8	495.7	522.5	533.9	533.0
Ending stocks (metric ton) 3/	130.0	145.2	164.2	168.2	175.3	145.7	117.4
Coarse grains							
Area (hectare)	338.7	334.6	334.2	340.8	336.8	323.1	324.0
Production (metric ton)	783.9	687.2	814.1	841.8	834.0	790.0	710.6
Exports (metric ton) 1/	90.0	93.4	100.4	83.2	83.9	81.9	85.7
Consumption (metric ton) 2/	753.3	758.3	781.0	777.8	809.3	808.7	799.8
Ending stocks (metric ton) 3/	181.4	110.8	143.9	207.8	232.4	213.7	124.5
Rice, milled							
Area (hectare)	140.6	144.2	144.4	144.9	145.1	142.3	145.8
Production (metric ton)	286.5	308.0	319.1	319.7	318.3	308.2	321.7
Exports (metric ton) 4/	11.9	12.6	11.5	12.8	12.7	10.9	12.4
Consumption (metric ton) 2/	286.5	304.6	311.0	320.7	322.5	316.1	322.5
Ending stocks (metric ton) 3/	43.3	46.7	54.8	54.1	49.9	42.1	41.3
Total grains							
Area (hectare)	716.6	707.6	709.6	715.0	709.9	685.2	689.3
Production (metric ton)	1,547.7	1,484.5	1,645.0	1,661.3	1,682.1	1,602.5	1,536.9
Exports (metric ton) 1/	200.6	208.0	218.9	181.0	187.3	197.5	191.8
Consumption (metric ton) 2/	1,499.9	1,537.0	1,584.8	1,594.2	1,654.3	1,658.6	1,655.4
Ending stocks (metric ton) 3/	354.7	302.7	362.9	430.1	457.6	419.5	283.2
Oilseeds							
Crush (metric ton)	143.5	135.8	150.6	154.8	161.3	166.3	166.3
Production (metric ton)	178.2	165.0	191.0	196.0	194.3	205.7	200.9
Exports (metric ton)	35.2	33.0	33.1	34.6	37.7	39.3	34.9
Ending stocks (metric ton)	20.5	15.7	21.1	26.7	23.4	21.2	14.5
Meals							
Production (metric ton)	98.1	92.5	101.7	104.7	110.1	113.4	112.1
Exports (metric ton)	31.6	29.7	32.3	34.4	36.4	36.3	36.5
Oils							
Production (metric ton)	43.4	42.1	46.1	49.4	50.4	52.5	53.2
Exports (metric ton)	14.0	13.7	15.5	16.3	17.0	17.5	17.5
Cotton							
Area (hectare)	31.4	31.0	33.9	31.9	29.9	32.5	34.5
Production (bale)	68.1	65.6	88.2	79.6	70.4	80.5	85.7
Exports (bale)	19.5	19.2	20.2	20.2	26.0	24.1	23.9
Consumption (bale)	68.3	68.3	70.0	75.8	82.5	82.5	82.6
Ending stocks (bale)	25.2	24.0	42.4	47.2	34.5	32.5	35.3
	1982	1983	1984	1985	1986	1987	1988 F
Red meat							
Production (mil metric tons)	94.8	97.5	99.3	103.3	105.6	105.4	107.5
Consumption (mil metric tons)	93.3	95.8	97.4	101.2	104.7	103.8	106.2
Exports (mil metric tons) 1/	5.8	5.9	5.9	6.2	6.6	6.5	6.8
Poultry							
Production (mil metric tons)	23.7	24.4	25.2	26.2	27.3	29.0	30.1
Consumption (mil metric tons)	23.3	24.3	24.8	25.9	26.9	28.5	29.7
Exports (mil metric tons) 1/	1.4	1.3	1.3	1.2	1.3	1.4	1.4
Dairy							
Milk production (mil metric tons)	396.9	413.0	413.4	417.8	423.9	419.0	420.8

1/ Excludes intra-EC trade. 2/ Where stocks data not available (excluding USSR), consumption includes stock changes. 3/ Stocks data are based on differing marketing years and do not represent levels at a given date. Data not available for all countries; includes estimated change in USSR grain stocks but not absolute level. 4/ Calendar year data. 1983 data correspond with 1982/83, etc. P = preliminary. F = forecast.

Information contacts: Frederic Surls (202) 786-1824; (red meat & poultry) Linda Bailey (202) 786-1286; (dairy) Sara Short (202) 786-1769.

U.S. Agricultural Trade

Table 27.—Prices of Principal U.S. Agricultural Trade Products

	Annual 1985	Annual 1986	Annual 1987	1987 July	1988 Feb	1988 Mar	1988 Apr	1988 May	1988 June	1988 July
Export commodities										
Wheat, f.o.b. vessel, Gulf ports ($/bu)	3.73	3.19	3.11	2.89	3.60	3.42	3.47	3.54	4.10	4.10
Corn, f.o.b. vessel, Gulf ports ($/bu)	2.89	2.27	1.95	1.96	2.24	2.30	2.29	2.28	3.01	3.31
Grain sorghum, f.o.b. vessel, Gulf ports ($/bu)	2.64	2.16	1.88	1.90	2.13	2.17	2.09	2.12	2.91	3.02
Soybeans, f.o.b. vessel, Gulf ports ($/bu)	5.83	5.45	5.55	5.74	6.46	6.55	6.92	7.38	9.38	9.11
Soybean oil, Decatur (cts/lb)	27.03	16.36	15.85	15.05	20.79	20.08	21.49	23.39	27.51	29.31
Soybean meal, Decatur ($/ton)	127.15	157.62	175.57	179.84	184.39	191.01	199.98	224.40	290.42	257.53
Cotton, 8-market avg. spot (cts/lb)	58.55	53.47	64.35	73.06	57.83	59.66	60.07	61.55	62.92	57.40
Tobacco, avg. price at auction (cts/lb)	171.55	153.96	144.34	141.80	149.27	149.27	141.22	141.22	141.22	141.22
Rice, f.o.b. mill, Houston ($/cwt)	18.49	14.60	13.15	10.50	24.50	24.06	24.00	21.20	20.50	20.50
Inedible tallow, Chicago (cts/lb)	14.33	9.03	13.79	15.17	17.08	17.25	16.17	16.17	17.18	18.81
Import commodities										
Coffee, N.Y. spot ($/lb)	1.42	2.01	1.09	1.00	1.28	1.27	1.23	1.22	1.23	1.21
Rubber, N.Y. spot (cts/lb)	41.91	42.87	50.65	53.47	53.75	54.92	55.68	58.62	70.64	66.05
Cocoa beans, N.Y. ($/lb)	.99	.88	.87	.93	.78	.73	.71	.74	.71	.71

Information contact: Mary Teymourian (202) 786-1820.

Table 28.—Indexes of Real Trade-Weighted Dollar Exchange Rates

	1987 Sept	1987 Oct	1987 Nov	1987 Dec	1988 Jan	1988 Feb	1988 Mar	1988 Apr	1988 May	1988 June	1988 July	1988 Aug
						1980=100						
Total U.S. trade 2/	108.0	107.6	101.8	98.6	99.4	101.6	100.2	99.4	100.2	103.3*	104.1*	105.0*
Agricultural trade												
U.S. markets	109.8	109.6	106.0	103.8	103.6	104.2	103.2*	102.5*	103.2*	104.9*	107.7*	109.7*
U.S. competitors	130.5	131.2	129.5	127.3	126.1	126.5	125.7*	125.5*	125.9*	126.9*	129.8*	130.2*
Wheat												
U.S. markets	121.0	120.4	117.8	116.0	115.7	116.0	114.6*	112.9*	113.1*	113.5*	115.7*	115.6*
U.S. competitors	124.2	125.7	125.5	122.6	121.9	121.9	120.7*	120.4*	120.6*	121.6*	124.4*	126.6*
Soybeans												
U.S. markets	105.4	104.9	100.1	97.2	97.5	98.7	97.8*	97.4*	98.5*	101.4*	105.6*	108.3*
U.S. competitors	188.6	194.1	194.2	189.4	185.5	184.0	186.5*	190.0*	196.3*	205.1*	214.7*	212.6*
Corn												
U.S. markets	98.4	98.0	94.4	91.7	91.3	91.8	91.1*	90.5*	91.4*	93.2*	96.2*	99.5*
U.S. competitors	160.8	166.1	163.7	159.3	160.0	161.7	162.7*	165.6*	170.0*	179.4*	189.3*	195.6*
Cotton												
U.S. markets	105.8	105.8	102.6	99.8	99.7	100.0	98.5*	97.7*	97.8*	98.8*	101.2*	102.7*
U.S. competitors	99.1	104.1	102.7	110.7	109.7	108.9	107.9*	105.6*	105.2*	104.6*	106.6*	103.5*

1/ Real indexes adjust nominal exchange rates for differences in rates of inflation, to avoid the distortion caused by high-inflation countries. A higher value means the dollar has appreciated. See the October 1988 issue of Agricultural Outlook for a discussion of the calculations and the weights used. 2/ Federal Reserve Board Index of trade-weighted value of the U.S. dollar against 10 major currencies. Weights are based on relative importance in world financial markets.
* = preliminary.

Information contact: Tim Baxter, Dave Stallings (202) 786-1706

Table 29.—Trade Balance

	Fiscal year* 1980	1981	1982	1983	1984	1985	1986	1987	1988 F	June 1988
					$ million					
Exports										
Agricultural	40,481	43,780	39,097	34,769	38,027	31,201	26,309	27,859	34,000	2,676
Nonagricultural	169,846	185,423	176,308	159,373	170,014	179,236	176,628	202,331	--	23,626
Total 1/	210,327	229,203	215,405	194,142	208,041	210,437	202,937	230,190	--	26,302
Imports										
Agricultural	17,276	17,218	15,485	16,373	18,916	19,740	20,875	20,643	20,500	1,612
Nonagricultural	223,590	237,469	233,349	230,527	297,736	313,722	342,855	367,381	--	36,389
Total 2/	240,866	254,687	248,834	246,900	316,652	333,462	363,730	388,024	--	38,001
Trade balance										
Agricultural	23,205	26,562	23,612	18,396	19,111	11,461	5,434	7,216	13,500	1,064
Nonagricultural	-53,744	-52,046	-57,041	-71,154	-127,722	-134,486	-166,227	-165,050	--	-12,763
Total	-30,539	-25,484	-33,429	-52,758	-108,611	-123,025	-160,793	-157,834	--	-11,699

*Fiscal years begin October 1 and end September 30. Fiscal year 1987 began Oct. 1, 1986 and ended Sept. 30, 1987.
1/ Domestic exports including Department of Defense shipments (F.A.S. value). 2/ Imports for consumption (customs value).
F = forecast. -- = not available.

Information contact: Steve MacDonald (202) 786-1822.

Table 30.—U.S. Agricultural Exports & Imports

	Fiscal year*				June	Fiscal year*				June
	1985	1986	1987	1988 F	1988	1985	1986	1987	1988 F	1988
	Thousand units					$ million				
EXPORTS										
Animals, live (no) 1/	996	570	275	--	44	255	344	331	--	19
Meats & preps., excl. poultry (mt)	427	451	548	2/500	58	906	1,012	1,300	--	169
Dairy products (mt)	423	480	445	--	41	414	431	490	500	46
Poultry meats (mt)	234	265	376	400	32	257	282	406	--	35
Fats, oils, & greases (mt)	1,217	1,355	1,220	3/1,300	106	608	477	417	--	42
Hides & skins incl. furskins	--	--	--	--	--	1,325	1,440	1,666	--	154
Cattle hides, whole (no) 1/	25,456	25,596	24,337	--	1,963	1,019	1,131	1,254	--	129
Mink pelts (no) 1/	2,237	2,697	2,760	--	161	60	65	103	--	5
Grains & feeds (mt)	93,903	74,358	90,213	--	8,536	13,285	9,472	9,059	4/12,200	1,002
Wheat (mt)	28,523	25,501	28,204	40,000	3,316	4,264	3,260	2,877	5/4,500	365
Wheat flour (mt)	718	1,094	1,305	1,100	140	164	203	207	--	27
Rice (mt)	1,972	2,382	2,454	2,200	128	677	648	551	700	47
Feed grains, incl. products (mt)	55,362	36,236	47,605	52,400	4,007	6,884	3,817	3,752	5,000	395
Feeds & fodders (mt)	6,533	8,392	10,113	6/11,000	895	1,004	1,286	1,455	--	146
Other grain products (mt)	795	1,015	750	--	67	293	332	284	--	28
Fruits, nuts, and preps. (mt)	1,907	2,003	2,141	--	194	1,687	1,766	2,049	--	188
Fruit juices incl. froz. (hl) 1/	4,641	3,652	4,362	--	563	200	148	185	--	27
Vegetables & preps. (mt)	1,420	1,442	1,625	--	159	946	997	1,174	--	105
Tobacco, unmanufactured (mt)	257	224	224	200	10	1,588	1,318	1,204	1,200	63
Cotton, excl. linters (mt)	1,277	482	1,306	1,500	121	1,945	678	1,419	2,200	187
Seeds (mt)	289	269	305	--	12	352	367	371	400	17
Sugar, cane or beet (mt)	355	375	582	--	42	65	75	113	--	13
Oilseeds & products (mt)	23,803	27,583	29,653	--	1,375	6,195	6,271	6,293	7,600	469
Oilseeds (mt)	17,886	20,684	21,833	21,000	817	4,324	4,394	4,408	--	255
Soybeans (mt)	16,621	20,139	21,322	20,700	799	3,876	4,174	4,191	4,800	242
Protein meal (mt)	4,606	5,614	6,786	6,000	350	853	1,132	1,347	1,400	93
Vegetable oils (mt)	1,311	1,284	1,035	--	208	1,018	746	538	--	121
Essential oils (mt)	12	7	8	--	1	105	105	111	--	11
Other	443	568	564	--	60	1,069	1,126	1,271	--	129
Total	125,967	109,862	129,210	146,000	10,747	31,201	26,309	27,859	34,000	2,676
IMPORTS										
Animals, live (no) 1/	2,120	1,885	1,994	--	117	569	637	610	700	43
Meats & preps., excl. poultry (mt)	1,123	1,139	1,282	--	125	2,214	2,248	2,797	--	263
Beef & veal (mt)	674	693	778	790	83	1,295	1,252	1,575	1,700	173
Pork (mt)	416	406	462	475	38	847	900	1,125	1,000	81
Dairy products (mt)	418	400	461	410	28	763	786	849	900	74
Poultry and products 1/	--	--	--	--	--	93	101	112	--	7
Fats, oils, & greases (mt)	21	22	21	--	2	18	17	18	--	2
Hides & skins, incl. furskins 1/	--	--	--	--	--	240	200	304	--	19
Wool, unmanufactured (mt)	43	53	59	--	4	145	160	197	--	23
Grains & feeds (mt)	2,070	2,311	2,336	2,800	309	604	668	727	800	78
Fruits, nuts, & preps., excl. juices (mt)	4,483	4,637	4,835	4,645	358	1,891	1,976	2,178	--	166
Bananas & plantains (mt)	3,022	3,042	3,106	3,020	231	752	740	817	800	65
Fruit juices (hl) 1/	35,112	31,539	33,888	28,500	1,459	995	698	728	--	44
Vegetables & preps. (mt)	2,140	2,199	2,446	2,500	139	1,347	1,560	1,509	1,600	116
Tobacco, unmanufactured (mt)	191	208	224	210	19	556	606	634	600	52
Cotton, unmanufactured (mt)	31	41	38	--	1	17	14	7	--	7/
Seeds (mt)	92	89	133	120	4	91	111	156	100	8
Nursery stock & cut flowers 1/	--	--	--	--	--	318	353	369	--	24
Sugar, cane or beet (mt)	2,338	1,905	1,492	1,070	62	912	654	497	--	19
Oilseeds & products (mt)	1,271	1,508	1,572	1,650	129	784	639	579	700	68
Oilseeds (mt)	253	197	165	--	20	98	69	56	--	6
Protein meal (mt)	159	138	245	--	18	17	15	30	--	3
Vegetable oils (mt)	859	1,173	1,162	--	91	670	555	493	--	59
Beverages excl. fruit juices (hl)1/	15,494	15,488	15,549	--	1,511	1,622	1,848	1,923	--	180
Coffee, tea, cocoa, spices (mt)	1,868	1,940	1,915	--	114	4,983	6,099	4,867	--	268
Coffee, incl. products (mt)	1,128	1,223	1,207	1,060	54	3,244	4,400	3,232	2,600	142
Cocoa beans & products (mt)	539	507	503	550	44	1,285	1,189	1,088	1,100	84
Rubber & allied gums (mt)	799	801	824	850	66	680	615	714	850	76
Other	--	--	--	--	--	900	885	868	--	82
Total	--	--	--	--	--	19,740	20,875	20,643	20,500	1,612

*Fiscal years begin October 1 and end September 30. Fiscal Year 1987 began Oct. 1, 1986 and ended Sept 30, 1987. 1/ Not included in total volume. 2/ Forecasts for footnoted items 2/-6/ are based on slightly different groups of commodities. Fiscal 1987 exports of categories used in the 1988 forecasts were 2/ 503,000 mt. 3/ 1.204 million mt. 4/ 9,302 million. 5/ 3,086 million, i.e. includes flour. 6/ 10.003 million mt. 7/ Less than $500. F = forecast. -- = not available.

Information contact: Steve MacDonald (202) 786-1822.

Table 31.—U.S. Agricultural Exports by Region

Region & country	Fiscal year* 1985	1986	1987	1988 F	June 1988	Change from year* earlier 1985	1986	1987	1988 F	June 1988
	$ million					Percent				
Western Europe	7,183	6,848	7,203	7,800	421	-22	-5	5	8	20
European Community (EC-12)	6,668	6,432	6,771	7,300	396	-23	-4	5	4	20
Belgium-Luxembourg	470	361	423	--	0	-44	-23	17	--	-100
France	396	431	494	--	0	-22	9	15	--	-100
Germany, Fed. Rep.	900	1,001	1,266	--	66	-29	11	26	--	11
Italy	677	693	733	--	0	-12	2	6	--	-100
Netherlands	1,926	2,042	1,950	--	87	-14	6	-5	--	-5
United Kingdom	628	628	662	--	69	-20	0	5	--	56
Portugal	502	308	268	--	23	-28	-39	-13	--	31
Spain, incl. Canary Islands	832	723	654	--	24	-32	-13	-10	--	84
Other Western Europe	515	415	432	500	25	-16	-19	4	25	26
Switzerland	232	128	145	--	0	-26	-45	13	--	-100
Eastern Europe	532	447	453	600	43	-28	-16	1	20	48
German Dem. Rep.	81	52	66	--	5	-39	-36	27	--	100
Poland	126	42	63	--	7	-36	-66	50	--	106
Yugoslavia	137	134	131	--	9	-24	-2	-2	--	72
Romania	88	112	115	--	15	-43	27	3	--	16
USSR	2,525	1,105	659	1,800	89	1	-56	-40	143	2
Asia	11,933	10,494	11,989	15,500	1,367	-22	-12	14	29	43
West Asia (Mideast)	1,452	1,243	1,663	2,000	148	-22	-14	34	18	36
Turkey	129	111	117	--	9	-42	-13	5	--	-52
Iraq	371	335	524	700	64	-12	-10	56	40	53
Israel	300	255	244	--	39	-15	-15	-4	--	333
Saudia Arabia	381	335	489	500	17	-23	-12	46	0	20
South Asia	599	517	345	--	106	-31	-14	-33	--	244
Bangladesh	205	94	111	--	1	31	-54	18	--	-97
India	129	90	93	--	49	-66	-30	3	--	1,203
Pakistan	228	285	98	400	52	-20	25	-66	300	2,066
China	239	83	235	500	69	-65	-65	183	150	176
Japan	5,663	5,139	5,553	6,900	591	-18	-9	8	18	28
Southeast Asia	842	724	707	--	73	-31	-14	-2	--	44
Indonesia	204	172	152	--	11	-53	-16	-12	--	41
Philippines	285	269	259	400	37	-5	-6	-4	33	92
Other East Asia	3,138	2,788	3,485	4,400	380	-14	-11	25	26	38
Taiwan	1,342	1,109	1,354	1,600	156	-5	-17	22	14	61
Korea, Rep.	1,400	1,277	1,693	2,200	182	-23	-9	33	29	26
Hong Kong	396	400	436	500	42	-3	1	9	25	22
Africa	2,527	2,134	1,784	2,100	228	-12	-16	-16	17	44
North Africa	1,207	1,401	1,279	1,500	192	-22	16	-9	15	58
Morocco	156	159	196	--	10	-54	2	23	--	-54
Algeria	220	329	244	600	55	36	50	-26	200	57
Egypt	766	875	761	700	110	-13	14	-13	-13	76
Sub-Sahara	1,320	733	505	600	37	-1	-44	-31	20	-2
Nigeria	367	158	67	--	3	6	-57	-58	--	388
Rep. S. Africa	189	70	49	--	3	-64	-63	-30	--	29
Latin America & Caribbean	4,570	3,598	3,765	4,000	330	-13	-21	5	5	8
Brazil	557	445	418	300	4	27	-20	-6	-25	-65
Caribbean Islands	771	752	829	--	69	-7	-2	10	--	17
Central America	361	334	377	--	32	-9	-7	13	--	14
Colombia	238	137	115	--	14	8	-42	-16	--	46
Mexico	1,566	1,114	1,215	1,300	150	-20	-29	9	8	50
Peru	106	108	140	--	6	-53	2	30	--	-57
Venezuela	721	493	459	600	34	-7	-32	-7	20	-45
Canada	1,727	1,466	1,776	2,000	172	-11	-15	21	11	0
Oceania	204	216	230	200	26	-6	6	6	0	76
Total	31,201	26,309	27,859	34,000	2,676	-18	-16	6	22	29
Developed countries	15,225	13,954	15,014	17,200	1,247	-21	-8	8	11	24
Less developed countries	12,680	10,719	11,499	13,900	1,228	-15	-15	7	21	33
Centrally planned countries	3,296	1,636	1,347	2,900	201	-16	-50	-18	123	43

*Fiscal years begin October 1 and end September 30. Fiscal year 1988 began Oct. 1, 1987 and ended Sept. 30, 1988.
F = forecast. -- = not available.
Note: Adjusted for transshipments through Canada.

Information contact: Steve MacDonald (202) 786-1822.

Table 32.—Farm Income Statistics

	Calendar year										
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 F
	$ billion										
1. Farm receipts	114.3	133.8	142.0	144.1	147.1	141.1	146.8	149.1	140.2	143.7	148 to 153
Crops (incl. net CCC loans)	53.2	62.3	71.7	72.5	72.3	67.1	69.5	74.2	63.6	61.9	66 to 68
Livestock	59.2	69.2	68.0	69.2	70.3	69.4	73.0	69.8	71.5	76.2	77 to 79
Farm related 1/	1.9	2.2	2.3	2.5	4.5	4.5	4.4	5.0	5.1	5.6	5 to 7
2. Direct Government payments	3.0	1.4	1.3	1.9	3.5	9.3	8.4	7.7	11.8	16.7	14 to 16
Cash payments	3.0	1.4	1.3	1.9	3.5	4.1	4.0	7.6	8.1	6.5	6 to 8
Value of PIK commodities	0.0	0.0	0.0	0.0	0.0	5.2	4.5	0.1	3.7	10.2	7 to 9
3. Total gross farm income (4+5+6) 2/	128.5	150.7	149.3	166.4	163.5	153.1	174.9	166.2	159.8	169.8	165 to 170
4. Gross cash income (1+2)	117.3	135.1	143.3	146.0	150.6	150.4	155.2	156.8	152.0	160.4	163 to 168
5. Nonmoney income 3/	9.3	10.6	12.3	13.8	14.3	13.5	13.4	11.8	10.6	10.0	8 to 10
6. Value of inventory change	1.9	5.0	-6.3	6.5	-1.4	-10.9	6.3	-2.4	-2.8	-.6	-6 to -8
7. Cash expenses 4/	84.2	101.7	109.1	113.2	112.8	113.5	116.6	110.2	100.6	103.3	106 to 109
8. Total expenses	103.2	123.3	133.1	139.4	140.0	140.4	142.7	134.0	122.3	123.5	126 to 129
9. Net cash income (4-7)	33.1	33.4	34.2	32.8	37.8	36.9	38.7	46.6	51.4	57.1	55 to 60
10. Net farm income (3-8)	25.2	27.4	16.1	26.9	23.5	12.7	32.2	32.3	37.5	46.3	38 to 43
Deflated (1982$)	34.9	34.9	18.8	28.6	23.5	12.2	29.7	29.1	32.9	39.3	30 to 35
11. Off-farm income	29.7	33.8	34.7	35.8	36.4	37.0	38.9	42.6	44.6	46.8	48 to 50
12. Loan changes 5/: Real estate	8.3	13.0	9.9	9.1	3.8	2.3	-1.1	-6.0	-9.2	-7.7	-2 to -4
13. 5/: Nonreal estate	8.3	11.2	5.3	6.5	3.4	0.9	-0.8	-9.6	-10.7	-4.9	0 to 1
14. Rental income plus monetary change	4.1	6.3	6.1	6.4	6.3	5.3	8.9	8.8	7.8	6.8	7 to 9
15. Capital expenditures 5/	17.9	20.1	18.0	16.8	13.3	12.7	12.5	9.6	8.5	9.8	9 to 11
16. Net cash flow (9+12+13+14-15)	35.8	43.8	37.6	37.8	38.1	32.7	33.1	30.2	30.8	41.4	50 to 55

1/ Income from machine hire, custom work, sales of forest products, and other miscellaneous cash sources. 2/ Numbers in parentheses indicate the combination of items required to calculate a given item. 3/ Value of home consumption of self-produced food and imputed gross rental value of farm dwellings. 4/ Excludes capital consumption, perquisites to hired labor, and farm household expenses. 5/ Excludes farm households. Totals may not add because of rounding. F = forecast.

Information contact: Andy Bernat (202) 786-1808.

Table 33.—Balance Sheet of the U.S. Farming Sector

	Calendar year 1/										
	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 F
	$ billion										
Assets											
Real estate	601.9	706.2	782.9	784.7	748.8	739.6	639.6	558.6	510.1	522.6	534 to 544
Nonreal estate	175.3	201.6	213.2	212.0	212.4	205.7	208.9	190.4	181.5	186.3	182 to 188
Livestock & poultry	51.3	61.4	60.6	53.5	53.0	49.7	49.6	46.3	47.6	57.6	59 to 63
Machinery & motor vehicles	75.5	85.8	93.1	101.4	102.0	100.8	96.9	87.6	80.3	73.9	72 to 76
Crops stored 2/	25.3	29.2	33.0	29.1	27.9	23.9	29.6	23.5	19.1	20.5	14 to 18
Financial assets	23.1	25.3	26.5	28.0	29.5	31.3	32.8	33.0	34.4	34.3	33 to 35
Total farm assets	777.2	907.8	996.1	996.7	961.2	945.3	848.5	749.0	691.6	708.9	720 to 730
Liabilities											
Real estate 3/	66.7	79.7	89.6	98.7	102.5	104.8	103.7	97.7	88.5	80.8	76 to 80
Nonreal estate 4/	60.7	71.8	77.1	83.6	87.0	87.9	87.1	77.5	66.8	61.9	60 to 64
Total farm liabilt.	127.4	151.6	166.8	182.3	189.5	192.7	190.8	175.2	155.3	142.7	136 to 144
Total farm equity	649.7	756.2	829.3	814.4	771.7	752.6	657.7	574.8	536.3	566.3	580 to 590
	Percent										
Selected ratios											
Debt-to-assets	16.4	16.7	16.7	18.3	19.7	20.4	22.5	23.4	22.5	20.1	18 to 20
Debt-to-equity	19.6	20.0	20.1	22.4	24.6	25.6	29.0	30.5	29.0	25.2	23 to 25
Debt-to-net cash income	385	454	488	556	497	523	493	376	302	250	237 to 247

1/ As of December 31. 2/ Non-CCC crops held on farms plus value above loan rates for crops held under CCC. 3/ Excludes debt on operator dwellings, but includes CCC storage and drying facilities loans. 4/ Excludes debt for nonfarm purposes. F = forecast.

Information contacts: Ken Erickson or Jim Ryan (202) 786-1798.

Table 34.—Cash Receipts from Farm Marketings, by State

Region & State	Livestock & Products				Crops 1/				Total 1/			
	1986	1987	May 1988	June 1988	1986	1987	May 1988	June 1988	1986	1987	May 1988	June 1988
						$ million 2/						
North Atlantic												
Maine	247	243	20	19	139	170	10	5	386	413	30	24
New Hampshire	72	66	6	5	38	38	2	2	110	104	8	7
Vermont	361	377	30	27	36	35	2	1	397	412	31	29
Massachusetts	130	124	11	11	286	268	15	15	416	393	26	25
Rhode Island	12	12	1	1	63	63	4	2	76	75	5	3
Connecticut	209	196	15	15	166	170	13	9	374	366	28	24
New York	1,808	1,800	144	136	782	726	40	44	2,590	2,527	184	179
New Jersey	150	140	12	12	432	423	33	46	582	563	45	58
Pennsylvania	2,242	2,319	199	186	903	905	70	65	3,145	3,224	269	251
North Central												
Ohio	1,586	1,614	133	122	2,003	1,808	117	139	3,589	3,422	250	261
Indiana	1,860	1,856	136	137	2,201	2,016	109	143	4,061	3,872	244	280
Illinois	2,155	2,262	181	173	4,612	3,913	304	411	6,766	6,174	485	584
Michigan	1,241	1,285	104	107	1,327	1,219	76	96	2,567	2,504	180	203
Wisconsin	4,022	4,222	351	330	845	795	37	67	4,867	5,017	388	398
Minnesota	3,408	3,645	307	281	2,622	2,165	202	254	6,030	5,809	509	535
Iowa	4,981	5,270	399	410	4,003	3,510	242	364	8,984	8,780	641	774
Missouri	1,968	2,173	147	135	1,537	1,517	69	154	3,505	3,691	216	289
North Dakota	671	760	50	36	1,639	1,548	104	248	2,310	2,308	154	284
South Dakota	1,487	1,910	131	100	889	813	69	88	2,375	2,723	200	188
Nebraska	4,251	4,848	382	389	2,562	1,975	110	160	6,813	6,823	492	548
Kansas	3,466	3,914	375	307	1,866	1,807	109	263	5,333	5,722	485	571
Southern												
Delaware	402	370	41	41	119	114	7	11	520	485	48	52
Maryland	811	734	69	70	374	394	28	32	1,185	1,128	97	102
Virginia	1,151	1,244	105	93	479	448	15	28	1,629	1,692	120	121
West Virginia	156	169	13	13	59	52	1	3	215	221	14	15
North Carolina	2,171	2,081	172	167	1,586	1,634	62	97	3,757	3,715	234	264
South Carolina	456	461	36	32	442	470	17	78	898	931	53	110
Georgia	1,884	1,826	157	154	1,312	1,261	48	75	3,195	3,087	205	229
Florida	1,018	1,102	90	81	3,696	4,125	625	216	4,714	5,227	715	297
Kentucky	1,362	1,506	76	73	1,040	913	25	45	2,402	2,419	101	117
Tennessee	1,041	1,107	84	92	813	826	39	52	1,854	1,933	123	144
Alabama	1,425	1,560	144	149	595	588	29	50	2,020	2,148	173	199
Mississippi	1,048	1,040	89	95	749	939	17	46	1,796	1,979	107	140
Arkansas	2,017	2,116	172	210	988	1,027	28	109	3,005	3,143	201	318
Louisiana	515	521	44	52	837	899	33	37	1,352	1,420	76	90
Oklahoma	1,874	2,052	197	159	708	700	47	135	2,582	2,752	244	294
Texas	5,517	6,059	601	600	3,186	3,027	228	278	8,704	9,086	829	878
Western												
Montana	652	760	47	36	469	587	39	51	1,121	1,347	85	87
Idaho	884	926	87	76	1,052	1,120	63	56	1,936	2,047	150	132
Wyoming	451	528	33	20	116	114	4	4	566	642	38	24
Colorado	2,218	2,321	162	143	888	870	46	43	3,106	3,191	208	186
New Mexico	712	817	50	41	304	331	20	38	1,016	1,147	70	79
Arizona	696	774	113	87	918	1,007	97	71	1,614	1,781	210	158
Utah	442	462	33	34	134	134	6	11	576	596	38	45
Nevada	159	167	16	13	79	76	3	4	238	243	19	17
Washington	980	982	91	93	1,828	1,860	89	140	2,807	2,841	180	234
Oregon	654	655	41	51	1,124	1,206	53	73	1,778	1,861	94	124
California	4,435	4,741	474	437	10,209	10,781	811	796	14,645	15,522	1,285	1,233
Alaska	10	11	1	1	18	19	1	1	28	29	2	2
Hawaii	84	88	8	7	481	471	41	41	565	559	49	48
United States	71,548	76,218	6,378	6,056	63,554	61,876	4,262	5,196	135,102	138,094	10,640	11,252

1/ Sales of farm products include receipts from commodities placed under CCC loans minus value of redemptions during the period. 2/ Estimates as of the end of current month. Totals may not add because of rounding.

Information contact: Roger Strickland (202) 786-1804.

Table 35.—Cash Receipts from Farming

	Annual 1982	1983	1984	1985	1986	1987	1987 June	1988 Feb	Mar	Apr	May	June
	$ million											
Farm marketings & CCC loans *	142,594	136,567	142,436	144,015	135,102	138,094	9,873	10,235	10,832	11,107	10,640	11,252
Livestock & products	70,257	69,438	72,966	69,842	71,548	76,218	6,004	6,051	6,505	6,614	6,378	6,056
Meat animals	40,917	38,893	40,832	38,589	39,122	44,716	3,432	3,889	4,001	4,178	3,797	3,439
Dairy products	18,234	18,763	17,944	18,063	17,753	17,829	1,466	1,286	1,495	1,429	1,481	1,393
Poultry & eggs	9,520	9,981	12,223	11,211	12,678	11,487	944	753	863	855	942	1,050
Other	1,586	1,801	1,967	1,979	1,994	2,187	162	123	145	153	158	173
Crops	72,338	67,129	69,469	74,173	63,554	61,876	3,870	4,184	4,328	4,492	4,262	5,196
Food grains	11,412	9,713	9,740	8,993	5,631	5,411	757	421	347	237	423	1,181
Feed crops	17,409	15,535	15,668	22,520	16,982	13,061	619	850	814	774	748	1,347
Cotton (lint and seed)	4,457	3,705	3,674	3,687	3,551	4,027	63	358	156	168	120	64
Tobacco	3,342	2,752	2,813	2,722	1,918	1,827	0	30	1	23	0	0
Oil-bearing crops	13,817	13,546	13,641	12,474	10,592	10,800	415	731	748	803	742	763
Vegetables & melons	8,063	8,459	9,138	8,558	8,630	9,223	856	530	804	847	967	827
Fruits & tree nuts	6,846	6,056	6,737	6,843	7,288	7,869	642	631	597	565	447	482
Other	6,993	7,365	8,060	8,378	8,962	9,658	518	634	860	1,076	815	533
Government payments	3,492	9,295	8,430	7,704	11,813	16,747	422	105	1,160	872	431	140
Total	146,086	145,862	150,866	151,719	146,915	154,841	10,295	10,340	11,992	11,979	11,071	11,392

* Receipts from loans represent value of commodities placed under CCC loans minus value of redemptions during the month.

Information contact: Roger Strickland (202) 786-1804.

Table 36.—Farm Production Expenses

	Calendar year 1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 F
	$ million									
Feed	19,314	20,971	20,855	18,592	21,725	19,852	18,015	16,179	16,093	18,000 to 20,000
Livestock	13,012	10,670	8,999	9,684	8,814	9,498	8,958	9,744	12,014	12,000 to 14,000
Seed	2,904	3,220	3,428	3,172	2,993	3,448	3,350	2,984	3,009	2,500 to 3,500
Farm-origin inputs	35,230	34,861	33,282	31,448	33,532	32,798	30,323	28,907	31,116	33,000 to 37,000
Fertilizer	7,369	9,491	9,409	8,018	7,067	7,429	7,259	5,787	5,392	5,500 to 6,500
Fuels & oils	5,635	7,879	8,570	7,888	7,503	7,143	6,584	4,790	4,442	4,200 to 5,200
Electricity	1,447	1,526	1,747	2,041	2,146	2,166	2,150	1,942	2,393	2,000 to 3,000
Pesticides	3,436	3,539	4,201	4,282	4,154	4,767	4,994	4,485	4,588	4,000 to 5,000
Manufactured inputs	17,887	22,435	23,927	22,229	20,870	21,505	20,987	17,004	16,815	16,000 to 19,000
Short-term interest	6,868	8,717	10,722	11,349	10,615	10,396	8,821	7,795	7,305	5,500 to 6,500
Real estate interest 1/	6,190	7,544	9,142	10,481	10,815	10,733	9,878	9,131	8,202	8,000 to 9,000
Total interest charges	13,058	16,261	19,864	21,830	21,430	21,129	18,699	16,926	15,508	13,500 to 15,500
Repair & maintenance 1/ 2/	6,754	7,075	7,021	6,428	6,529	6,416	6,370	6,426	6,546	6,500 to 7,500
Contract & hired labor	8,981	9,293	8,931	10,075	9,725	9,729	9,799	9,879	10,747	10,000 to 12,000
Machine hire & custom work	2,063	1,823	1,984	2,025	1,896	2,170	2,184	1,810	1,956	1,500 to 2,500
Marketing, storage, & transportation	3,162	3,070	3,523	4,301	3,904	4,012	4,127	3,652	3,823	4,000 to 5,000
Misc. operating expenses 1/	6,771	6,881	6,909	7,262	9,089	9,106	8,232	7,993	8,311	7,000 to 8,000
Other operating expenses	27,732	28,142	28,368	30,089	31,143	31,433	30,712	29,760	31,383	29,000 to 34,000
Capital consumption 1/	19,345	21,474	23,573	24,287	23,873	23,105	20,847	18,916	17,348	17,000 to 18,000
Taxes 1/	3,871	3,891	4,246	4,036	4,469	4,059	4,231	4,125	4,345	3,700 to 4,700
Net rent to nonoperator landlord	6,182	6,075	6,184	6,059	5,060	8,640	8,158	6,698	6,987	7,300 to 8,300
Other overhead expenses	29,398	31,440	34,003	34,381	33,402	35,805	33,236	29,739	28,680	28,000 to 31,000
Total production expenses	123,304	133,139	139,444	139,980	140,377	142,669	133,957	122,335	123,502	126,000 to 129,000

1/ Includes operator dwellings. 2/ Beginning in 1982, miscellaneous operating expenses includes other livestock purchases and dairy assessments. Totals may not add because of rounding. F = forecast.

Information contacts: Chris McGath (202) 786-1804; Andy Bernat (202) 786-1808.

Table 37.—CCC Net Outlays by Commodity & Function

	Fiscal year										
	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988 E	1989 E
	$ million										
COMMODITY/PROGRAM											
Feed grains	1,144	1,286	-533	5,397	6,815	-758	5,211	12,211	13,967	8,200	2,725
Wheat	308	879	1,543	2,238	3,419	2,536	4,691	3,440	2,836	557	695
Rice	49	-76	24	164	664	333	990	947	906	125	1,002
Upland cotton	141	64	336	1,190	1,363	244	1,553	2,142	1,786	757	2,609
Tobacco	157	-88	-51	103	880	346	455	253	-346	-399	-326
Dairy	24	1,011	1,894	2,182	2,528	1,502	2,085	2,337	1,166	1,183	682
Soybeans	4	116	87	169	288	-585	711	1,597	-476	-1,449	-176
Peanuts	27	28	28	12	-6	1	12	32	8	7	1
Sugar	313	-405	-121	-5	49	10	184	214	-65	-15	0
Honey	-2	9	8	27	48	90	81	89	73	82	71
Wool	39	35	42	54	94	132	109	123	152	137	85
Operating expense	97	157	159	294	328	362	346	457	535	568	583
Interest expenditure	238	518	220	-13	3,525	1,064	1,435	1,411	1,219	444	694
Export programs	417	-669	-940	65	398	743	134	102	276	281	197
Other	656	-113	1,340	-225	-1,542	1,295	-314	486	371	2,631	2,287
Total	3,612	2,752	4,036	11,652	18,851	7,315	17,683	25,841	22,408	13,109	11,129
FUNCTION											
Price-support loans (net)	2	-66	174	7,015	8,438	-27	6,272	13,628	12,199	4,435	949
Direct payments											
Deficiency	1,024	79	0	1,185	2,780	612	6,302	6,166	4,833	3,857	4,833
Diversion	419	56	0	0	705	1,504	1,525	64	382	10	0
Disaster	367	258	1,030	306	115	1	0	0	0	0	0
Dairy termination	0	0	0	0	0	0	0	489	587	270	189
Other	1	25	0	0	0	0	0	27	60	0	44
Total direct payments	1,811	418	1,030	1,491	3,600	2,117	7,827	6,746	5,862	4,137	5,066
Purchases (net)	10	1,681	1,602	2,031	2,540	1,470	1,331	1,670	-479	-1,061	193
Producer storage payments	247	254	32	679	964	268	329	485	832	498	341
Processing, storage, & transportation	128	259	323	355	665	639	657	1,013	1,659	991	697
Operating expense	97	157	159	294	328	362	346	457	535	568	583
Interest expenditure	238	518	220	-13	3,525	1,064	1,435	1,411	1,219	444	694
Export programs	417	-669	-940	65	398	743	134	102	276	281	197
Other	662	200	1,436	-265	-1,607	679	-648	329	305	2,816	2,409
Total	3,612	2,752	4,036	11,652	18,851	7,315	17,683	25,841	22,408	13,109	11,129

E = estimated in the fiscal 1989 Mid-Session Review. Fiscal 1989 estimated outlays do not incorporate the impact of pending drought legislation. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds).

Information contact: Richard Pazdalski (202) 447-5148.

Transportation

Table 38.—Rail Rates; Grain & Fruit/Vegetable Shipments

	Annual			1987	1988					
	1985	1986	1987	July	Feb	Mar	Apr	May	June	July
ail freight rate index 1/ (Dec 1984=100)										
All products	100.0	100.7	100.1	100.1	103.2	103.2	105.2 P	105.1 P	104.8 P	105.2 P
Farm products	99.0	99.6	99.3	99.3	101.9	102.0	105.0 P	103.2 P	103.6 P	103.3 P
Grain	98.3	98.9	98.7	98.6	101.2	101.4	102.9 P	102.7 P	103.1 P	102.8 P
Food products	100.1	99.9	98.6	98.8	101.5	101.5	103.8 P	103.9 P	103.7 P	103.7 P
rain shipments										
Rail carloadings (thou cars) 2/	22.9	24.4	29.1	32.2	33.2 P	34.2 P	33.0 P	31.9 P	31.9 P	29.7 P
resh fruit & vegetable shipments										
Piggy back (thou cwt) 3/ 4/	602	629	584	787	473 P	484 P	539 P	768 P	789 P	662 P
Rail (thou cwt) 3/ 4/	532	563	654	483	613 P	635 P	533 P	715 P	782 P	481 P
Truck (thou cwt) 3/ 4/	8,298	9,031	9,201	10,060	8,766 P	9,622 P	10,506 P	11,554 P	11,494 P	9,231 P
ost of operating trucks hauling produce 5/										
Owner operator (cts/mile)	116.1	113.1	116.3	116.8	118.3	118.3	118.9	118.5	118.5	119.0
Fleet operation (cts/mile)	116.7	113.6	116.5	116.9	118.1	117.7	118.4	118.3	118.0	118.2

1/ Department of Labor, Bureau of Labor Statistics. 2/ Weekly average; from Association of American Railroads. / Weekly average; from Agricultural Marketing Service, USDA. 4/ Preliminary data for 1987 and 1988. 5/ Office of ransportation, USDA. P = preliminary.

nformation contact: T.Q. Hutchinson (202) 786-1840.

Table 39.—Indexes of Farm Production Input Use & Productivity

	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987 2/
					1977=100					
Farm output	104	111	104	118	116	96	112	118	111	109
All livestock products 3/	101	104	108	109	107	109	107	110	110	111
Meat animals	100	103	107	106	101	104	101	102	100	98
Dairy products	99	101	105	108	110	114	110	117	117	116
Poultry & eggs	106	114	115	119	119	120	123	128	133	143
All crops 4/	102	113	101	117	117	88	111	118	109	106
Feed grains	108	116	97	121	122	67	116	134	123	105
Hay & forage	106	108	98	106	109	100	107	106	106	103
Food grains	93	108	121	144	138	117	129	121	107	106
Sugar crops	101	94	97	107	96	93	95	97	106	112
Cotton	76	102	79	109	85	55	91	94	69	104
Tobacco	106	80	93	108	104	75	90	81	63	64
Oil crops	105	129	99	114	121	91	106	117	110	106
Cropland used for crops	97	100	101	102	101	88	99	98	94	87
Crop production per acre	105	113	100	115	116	100	112	120	116	122
Farm input 5/	102	105	103	102	99	97	95	92	87	--
Farm real estate	100	103	103	104	102	101	97	95	93	--
Mechanical power & machinery	104	104	101	98	92	89	85	81	76	--
Agricultural chemicals	107	123	123	129	118	105	121	121	109	--
Feed, seed & livestock purchases	108	115	114	108	107	109	105	105	102	--
Farm output per unit of input	101	105	101	116	118	99	118	128	127	--
Output per hour of labor										
Farm 6/	104	113	109	123	125	99	121	139	139	140
Nonfarm 7/	101	99	99	100	99	102	105	106	108	108

1/ For historical data and indexes, see Economic Indicators of the Farm Sector: Production and Efficiency Statistics, 1985, ECIFS 5-5. 2/ Preliminary indexes for 1987 based on January 1988 Crop Production: 1987 Summary report and other releases of the Agricultural Statistics Board, NASS. 3/ Gross livestock production includes minor livestock products not included in the separate groups shown. It cannot be added to gross crop production to compute farm output. 4/ Gross crop production includes some miscellaneous crops not in the separate groups shown. It cannot be added to gross livestock production to compute farm output. 5/ Includes other items not included in the separate groups shown. 6/ Economic Research Service. 7/ Bureau of Labor Statistics. -- = not available.

Information contact: Jim Hauver (202) 786-1459.

Table 40.—Per Capita Consumption of Major Food Commodities (Retail Weight)

	1979	1980	1981	1982	1983	1984	1985	1986	1987 2/
					Pounds				
Meats 3/	144.7	147.4	145.0	138.4	143.2	142.8	144.1	140.2	135.4
Beef	78.0	76.4	77.1	76.8	78.2	78.1	78.8	78.4	73.4
Veal	1.7	1.5	1.6	1.7	1.6	1.8	1.8	1.9	1.5
Lamb and mutton	1.3	1.4	1.4	1.5	1.5	1.5	1.4	1.4	1.3
Pork	63.7	68.1	64.9	58.5	61.9	61.5	62.0	58.6	59.2
Fish (edible weight)	13.0	12.8	12.9	12.3	13.1	13.7	14.4	14.7	15.4
Canned	4.8	4.5	4.8	4.3	4.8	4.9	5.1	5.4	5.1
Fresh and frozen	7.8	8.0	7.8	7.7	8.0	8.5	9.0	9.0	10.0
Cured	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Poultry products									
Eggs	35.1	34.4	33.5	33.5	33.0	32.9	32.2	31.7	31.6
Chicken (ready-to-cook)	50.3	49.8	51.3	52.7	53.4	55.2	57.6	58.7	62.7
Turkey (ready-to-cook)	9.9	10.5	10.7	10.8	11.2	11.3	12.1	13.3	15.1
Dairy products									
Cheese (excluding cottage)	17.2	17.5	18.2	19.9	20.5	21.4	22.5	23.0	24.0
Fluid whole milk 4/	155.6	147.0	139.6	134.1	130.8	126.6	122.7	115.4	109.9
Fluid lowfat milk 5/	88.1	91.2	92.9	93.1	95.9	99.1	104.6	110.4	113.6
Fluid cream 6/	3.3	3.4	3.4	3.5	3.6	4.0	4.3	4.6	4.7
Yogurt	2.5	2.6	2.5	2.6	3.2	3.7	4.0	4.3	4.6
Ice cream (product weight)	17.3	17.5	17.4	17.6	18.0	18.1	18.1	18.4	18.3
Fats and oils (fat content only) 7/	56.4	57.2	57.7	58.2	60.0	58.6	64.0	64.1	62.7
Butter (product weight)	4.5	4.5	4.2	4.3	4.9	4.9	4.9	4.6	4.6
Margarine (product weight)	11.2	11.3	11.1	11.0	10.4	10.4	10.8	11.4	10.5
Shortening	18.4	18.2	18.5	18.6	18.5	21.2	22.8	22.0	21.3
Lard (direct use)	2.5	2.6	2.5	2.5	2.1	2.1	1.8	1.7	1.8
Edible tallow (direct use)	0.4	1.1	1.0	1.3	2.1	1.7	1.9	1.8	1.0
Salad and cooking oils	20.8	21.2	21.8	21.8	23.5	19.8	23.5	24.1	25.2
Selected fresh fruits 3/	80.8	86.4	83.1	83.7	88.4	87.8	86.3	93.2	98.6
Citrus	23.9	27.9	24.1	23.9	28.3	23.2	22.6	26.6	27.2
Apples	16.8	18.3	16.1	17.1	17.6	17.6	16.6	17.3	20.3
Other noncitrus	40.2	40.2	42.9	42.7	42.4	47.0	47.1	49.3	51.2
Selected fresh vegetables 8/	71.3	72.8	71.5	74.2	74.7	78.8	78.8	79.9	78.6
Selected vegetables for processing 3/ 9/	93.8	92.8	88.5	86.8	88.5	95.5	92.1	91.1	91.8
Tomatoes for processing 9/ 10/	54.7	54.1	50.4	51.0	51.7	58.1	53.6	53.9	54.9
Cucumbers for pickling 9/	5.4	5.1	5.2	5.3	5.3	5.3	5.3	4.8	4.7
Other vegetables for canning 9/ 11/	19.6	19.9	19.3	17.8	17.7	15.8	17.3	17.6	16.2
Vegetables for freezing 9/ 12/	14.1	13.6	13.6	12.7	13.8	16.2	15.8	14.7	16.0
White potatoes									
Fresh	47.6	49.0	43.8	44.8	47.9	46.8	44.7	47.6	42.3
Frozen	20.7	17.9	19.1	20.0	19.1	20.7	22.0	22.0	22.5
Canned	1.3	1.2	1.1	1.2	1.2	1.1	1.2	1.2	1.1
Dehydrated	1.5	1.3	1.5	1.4	1.4	1.4	1.6	1.5	1.4
Chips and shoestrings	4.1	4.1	4.1	4.2	4.4	4.4	4.3	4.4	4.6
Grains									
Wheat flour 13/	117.2	116.8	115.8	116.7	117.4	118.1	123.3	123.6	128.0
Rice	9.4	9.4	11.0	11.8	9.7	8.6	9.1	11.6	13.4
Pasta	10.2	10.0	10.0	9.9	10.5	11.3	12.9	14.4	17.1
Breakfast cereals	12.9	12.9	13.0	13.1	13.4	14.0	14.4	14.8	15.2
Other									
Coffee	8.6	7.7	7.7	7.6	7.6	7.5	7.6	7.6	7.6
Cocoa (chocolate liquor equiv.)	2.7	2.7	2.9	3.0	3.2	3.4	3.7	3.8	3.9
Peanuts (shelled)	5.9	4.8	5.5	5.9	5.9	6.0	6.3	6.4	6.3
Sugar (refined) 14/	89.3	83.6	79.3	73.6	70.9	67.3	63.0	60.2	62.2
Corn sweeteners (dry weight) 15/	36.3	40.2	44.5	48.1	52.1	57.8	66.5	67.1	68.8
Soft drinks (gals.)	27.0	27.1	27.1	26.9	26.9	27.2	29.1	30.3	--

1/ Quantity in pounds, retail weight unless otherwise stated. Data on calendar year basis except fresh citrus fruits, apples, peanuts, and rice which are on a crop-year basis. 2/ Preliminary. 3/ Total may not add because of rounding. 4/ Plain and flavored. 5/ Lowfat, skim, buttermilk, and flavored drinks. 6/ Heavy cream, light cream, and half and half. 7/ Includes 80 percent of the product weight of butter and margarine and all of the product weight of other fats and oils, some of which are not reported separately. 8/ Includes asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, onions, and tomatoes. 9/ Fresh equivalent. 10/ Used in such processed products as ketchup, canned tomatoes, tomato paste, and tomato puree. 11/ Includes asparagus, carrots, green peas, snap beans, and sweet corn. 12/ Includes asparagus, broccoli, carrots, cauliflower, green peas, snap beans, and sweet corn. 13/ White, whole wheat, semolina, and durum flour. 14/ Beginning 1982, includes small amount of refined sugar contained in imported blends and mixtures, including sucrose-dextrose blends, sugar-sweetened tea mixes, and flavored syrups in consumer size containers. 15/ High fructose, glucose, and dextrose; dry-weight equivalent. -- = not available.

Information contact: Judy Putnam (202) 786-1870.

NEW EXPANDED SERVICE!

NOW GET ALL THE ECONOMIC RESEARCH SERVICE PERIODICALS , DIRECT.

ONE PHONE CALL--(301) 953-2515. ONE PAYMENT--check, money order, pay later. UP TO 3 YEARS--check the discounts. SUBSCRIBE TODAY! Check the subscriptions you want.

SITUATION & OUTLOOK REPORTS	1 Year	2 Years	3 Years
Agricultural Exports (4 issues)	_$10	_$19	_$27
Agricultural Income & Finance (4)	_ 10	_ 19	_ 27
Agricultural Resources (5)	_ 10	_ 19	_ 27
Aquaculture (2)	_ 10	_ 19	_ 27
Cotton & Wool (4)	_ 10	_ 19	_ 27
Dairy (5)	_ 10	_ 19	_ 27
Feed (4)	_ 10	_ 19	_ 27
Fruit & Tree Nuts (4)	_ 10	_ 19	_ 27
Livestock & Poultry (6) Plus 2 data supplements	_ 15	_ 29	_ 42
Oil Crops (4)	_ 10	_ 19	_ 27
Rice (3)	_ 10	_ 19	_ 27
Sugar & Sweetener (4)	_ 10	_ 19	_ 27
Tobacco (4)	_ 10	_ 19	_ 27
Vegetables & Specialties (3)	_ 10	_ 19	_ 27
Wheat (4)	_ 10	_ 19	_ 27
World Agriculture (3)	_ 10	_ 19	_ 27
World Agriculture Regionals (4)	_ 10	_ 19	_ 27
OTHER PERIODICALS			
Agricultural Outlook (11 issues)	_22	_43	_63
Economic Indicators of the Farm Sector (5)	_ 12	_ 23	_ 33
Farmline (11)	_ 11	_ 21	_ 30
Foreign Agricultural Trade of the United States (6) Plus calendar and FY supplements	_ 20	_ 39	_ 57
Journal of Agricultural Economics Research (4)	_ 7	_ 13	_ 18
National Food Review (4)	_ 10	_ 19	_ 27
Rural Development Perspectives (3)	_ 9	_ 17	_24
TOTAL	$_______	$_______	$_______

Foreign customers: Add 25 percent for subscriptions mailed outside the United States.

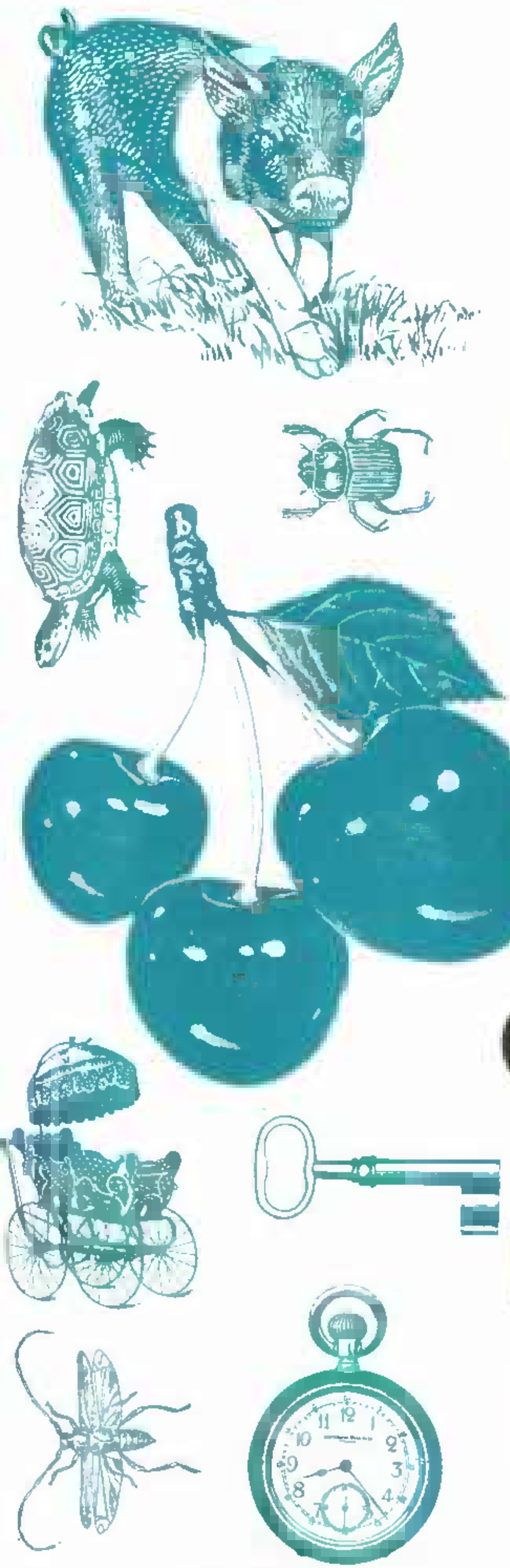
HOW TO ORDER : For fastest service or more information, call (301) 953-2515. Or mail this entire form to:

USDA/ERS
Box 1608
Rockville, MD 20850

___Please bill me.
Enclosed is a check or money order for $_______.
Make payable to USDA/ERS.

Name	Daytime Phone ( )
Organization	
Address	

City	State	Zipcode



Information

Information from the Federal Government on subjects ranging from agriculture to zoology is available at Depository Libraries across the nation.

You can visit these libraries and use the Depository collections without charge.

To find one in your area, contact your local library or write: Federal Depository Library Program, Office of the Public Printer, Washington, DC 20401.

Federal Depository Library Program

This program is supported by The Advertising Council and is a public service of this publication.

New from USDA'S Economic Research Service: The U.S. Tobacco Industry

This comprehensive report examines U.S. tobacco--use, production, and trade--and how Government programs affect tobacco farmers. The cultural practices, harvesting and curing systems, market preparation, and production costs for tobacco are also reviewed.

Order the report, "The U.S. Tobacco Industry," AER No. 589:
From the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, DC 20402. Order by title and series number. Or call the GPO order desk at (202) 783-3238 and charge your purchase to your VISA, MasterCard, or GPO Deposit Account. A 25-percent bulk discount is available for orders of 100 or more copies of a single title sent to a single address. Foreign customers, please add 25 percent for postage

United States
Department of Agriculture
Washington, DC 20250

OFFICIAL BUSINESS
Penalty for Private Use, $300

FIRST-CLASS MAIL
POSTAGE & FEES PAID
U.S. Dept. of Agriculture
Permit No. G-145

Moving? To change your address, send this sheet with label intact, showing new address, to EMS Information, Rm. 228, 1301 New York Ave., N.W., Washington, D.C. 20005-4788